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## ORIGINAL ARTICLES.

### DIPHTHERIA\*

T. J. HAPPEL,† A. M., M. D.

I venture to call attention to this malady not so much with a view of throwing new lights upon an old subject as for the purpose of eliciting a discussion and a comparison of views entertained in regard to the disease as it manifests itself in Tennessee.

In different parts of the State during the year 1892 the existence of diphtheria was reported. The county of Gibson did not escape. But one case occurred in my own practice, but I was called in consultation to see cases treated by three other practitioners near Trenton; the cases being distant respectively five, six, and ten miles from Trenton. I submit a brief history of these cases and then draw my conclusions.

Sept. 2, 1892, I was called in consultation to see the three children of Mr. V. The family lived on an elevated point, within 200 yards of an old saw-mill which had been abandoned for eight or ten years. The sawdust that had accumulated at that point lay rotting year after year, affording a nice playing place for children, and was no doubt so utilized by them. Otherwise the place presented as good sanitary surroundings as are usually found about country farmhouses. I found the children aged 11, 6 and 4 years. The oldest attended a neighborhood school, and four

days since, though a little unwell, was at her place as usual, but came home that evening sick, having high fever.

During the night Dr. M. was called, but did not see the case until the next day, the family supposing the attack an ordinary chill. Dr. M. at this visit regarded the attack as malarial fever with catarrhal symptoms, accompanied by a slight tonsillitis. The next day he found the second child also sick, and the symptoms calling attention more to the throat, he found tonsillitis with extensive exudation in both cases. The next day the exudation assumed the form of pseudo-membrane and extended posteriorly and laterally over the fauces, and anteriorly along the soft palate in the first case, but not so extensively in the second. The temperature and pulse had both decreased in the first case, falling slightly below normal, and in the younger the temperature was normal. I was called on the fifth day of the disease in the oldest child, being the third day in the second.

An examination of the throat of the oldest revealed pseudo-membrane on both tonsils, not quite meeting in the median line posteriorly, and the one on the left side extending anteriorly along the hard palate fully two inches, loosening along the anterior edges, and appearing to be about one and a half lines in thickness.

Case 2 showed patches of false membrane about the size of a nickel on each tonsil, extending downward and toward

\* Read before the Tennessee State Medical Society, 1893.

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the middle. This child claimed not to be sick, wanted to play about, with a pulse of 120 and a feeble, anemic look. Face pinched and white. The same could be said as to the appearance of the oldest child, but she admitted that she was sick, and was willing to lie in bed, being easily exhausted by any exertion.

The youngest child was a little hoarse, with slight fever, but was able to play about. His throat revealed no patches, only a redness and slightly enlarged condition of both tonsils. Under a mopping of the throat of the eldest girl (having first used a wash of peroxide of hydrogen full strength, and then following with a solution of papoid), in an effort of coughing, the whole of the large part of this membrane attached anteriorly to the hard palate was detached and coughed out, leaving a raw and, in a few points, bleeding base.

In the other child's throat nothing was detached under the same treatment, though very decided action resulted when the peroxide was brought in contact with the false membrane. Both children were much tired by the application. These children had been treated up to that time with quinine, and aconite and gelsemium when temperature was above normal, and the throats had been mopped with listerine alternated with a saturated solution of chlorate of potash, which latter remedy had also been administered internally. Neither child had any desire for food, and none had been forced on them.

It was agreed first that all clothes, mops, etc., used about the throat, or upon which any of the secretions from the throat were received, should at once be burned. That in the absence of an atomizer, applications should be made to the throat by means of soft mops made of absorbent cotton. Second, that the disease should be treated locally with applications of peroxide of hydrogen (Marchauds) followed at once by a solution of papoid. Third, that as internal remedies, alcohol in different forms should be given as demanded by each case. Fowler's solution of arsenic was ordered every four hours. Fourth, the youngest child was ordered sent to a relative, who had no children, with directions to mop the throat with a solution of persulphate of iron and chlorate of potash, and given full doses of quinine three times a day. Fifth, all children were

ordered to be kept away from contact with the cases.

Sept. 4th. The appearance of the throats of both the children had improved, except that the membrane, much thinner and smaller every way, had been reproduced over the portion of the palate of the oldest child from which it had been removed. Temperature subnormal in this case with a slow feeble pulse, complete anorexia, and decided aphonia; very weak. The second child was better in every way.

Sept. 6th. Throats of both cases improved so far as pseudo-membrane was concerned. Pulse and temperature in the oldest child subnormal. Deglutition difficult with a tendency on the part of drink and food to return through the nose, prostration great, with a loathing of food. It was decided to add to her treatment a pill of iron, quinine, and nux-vomica, with phosphorus, and to press alcoholic stimulants. Prognosis in this case very grave. The second child improved in every respect. No development of disease in the third.

Two days later, gangrenous symptoms supervened in the first case, and two days later sloughing began. The child died suddenly from heart failure on the fifth day after my last visit. The other child slowly recovered. The third child did not develop the disease.

On Sept. 6th, I was called in consultation with Dr. M. to see a two year old child of Mr. T., who also lived not far from an old saw mill. A few days before, the little boy was found with fever, a sore throat and developing croupy cough. Dr. M. reported that when he called he found a slight tonsillitis, with pharyngitis, also a laryngeal cough. At that visit he found no membranes. At his next visit the symptoms were the same but membranes could be plainly seen. I was called the next day. I found the child playing on the floor. There was a stridulous cough and a shrill respiration which could be heard outside of the room. Temperature and pulse almost normal. I discovered membranous patches on both tonsils. There were no other children in the family.

The treatment locally consisted of a spray of peroxide of hydrogen followed, as in the first case, with a solution of papoid. Dr. M. had been using sulphur by insufflation. This was continued.

Quinine 2 to 3 grs. every 4 hours, to be alternated at the same intervals with mercuric bichloride gr.  $\frac{1}{4}$ . Egg-nogg, milk punch and toddy were directed to be freely used. At the third visit, tr. ferri mur. was added to the foregoing treatment. The spraying was kept up regularly till every trace of the membranes had disappeared. The bichloride was not suspended till, in addition to the disappearance of the membranes, the laryngitis had subsided. Dr. M. had just prior to this one lost two patients in the same neighborhood.

Nov. 6th, saw, in consultation with Dr. K., Miss B., aged 11 years, presenting a well developed case of diphtheria with slight laryngeal symptoms. She, too, lived not far from an old saw mill. Temperature for a few days was high, but had fallen to about normal; pulse frequent, feeble, and irregular; prostration decided. Her treatment consisted of the same spraying and mopping, alcoholics and nutrition, with scrupulous regard for cleanliness, and Tr. Ferri Mur. gtt. 4 every four hours with R: Hydrarg. Bichlor. grs. 1, Liq. Arsenici Chlor. drams 1, Acid Muriate, dil. drams 2, Glycerinae, drams 3, Aquæ q. s. oz. 4, M. et ft. mist. Sig.: Teaspoonful every four hours; alternate with the iron.

From the adoption of this treatment her improvement was steady but slow. At the end of two weeks all traces of the disease except extreme debility had disappeared.

My own case, occurring in Trenton, was milder than any of those reported and recovered on about the same treatment, except that the throat was treated with a solution of persulphate of iron and chlorate of potash.

During the prevalence of this disease, a number of cases of diphtheritic croup attacked children under two years of age. Tracheotomy was performed in at least four (4) of these cases with fatal results in all. The cases not operated on as a rule died also.

I have thus briefly reported these cases to invite your attention to some thoughts upon the disease and more especially upon its treatment.

According to the latest writers upon the subject, diphtheria is due to a specific germ, the Klebs-Loeffler bacillus. This statement is made on the ground that in

cases of diphtheria the pseudo-membrane is found inhabited by vast colonies of this bacillus. Yet our same bacteriologists admit that membranes are found in many cases which cannot be distinguished by appearance or anatomical characters from that of true diphtheria except by the absence of the Klebs-Loeffler bacillus; ergo, no case of diphtheria can be positively diagnosed without the aid of a microscope. Again, in *L'Union Medicale*, Nov. 14th, 1892, Roux and Versin state that in fifty healthy children examined in Paris and elsewhere in France, they found in the mouths of twenty-six of these children "a bacillus which, in a morphological point of view, is identical with the Klebs-Loeffler bacillus." The difference which they could discover was not in its individual form nor in the form of its colony, but only in the numbers of its colonies. This being true, does it not at once raise the question, or rather establish as a fact, what is stated by them to be a belief "that this harmless bacillus is none other than the Klebs-Loeffler bacillus deprived of its virulence?"

A search for this bacillus might reveal its presence much more common, and might carry the etiology of the disease to this point. "This Klebs-Loeffler bacillus exists in the secretions of the buccal surfaces of many persons, and when brought in contact with a *tertium quid*, causes the secretion by these bacilli of a toxalbumen which is absorbed, resulting *first*, in the manifestation of local disease and, *afterward*, a blood-poisoning resulting in constitutional symptoms." I simply suggest this as the probable etiology of the disease. The facts are as stated. These bacilli are found in the mouths of healthy persons. They are also found in pseudo-membranes which are not considered diphtheritic simply because when the bacilli are secured from that source and cultivated, or inoculated, they neither develop large colonies nor produce local trouble; and yet the microscope cannot differentiate these bacilli from those found in the most malignant cases of diphtheria. If this be a solution of the question, I can account for the development of the cases appearing in Gibson County during the past year upon the supposition that in nearly every case the rapid decay of the old saw-dust, which was near every neighborhood in which any case de-



veloped, furnished the pabulum on which the bacilli grew and multiplied.

In connection with the Klebs-Löffler bacilli, the microscope, according to Roux and Versin, shows also staphylococci and streptococci pyogenes in the meshes of the membrane. The bacilli either live in, or cause the production of the pus, which is found intermixed in the pseudo-membranes. For these we will have use later on in the treatment.

It has been further proved by Klebs-Löffler, Roux and others that if cultures of these bacilli are filtered through a porcelain filter no bacilli are found in the filtrate, and that this filtrate solution injected causes no local manifestation of diphtheria but develops the constitutional disturbances seen so often in the disease. If the solution is strong or considerable in quantity, death rapidly supervenes, but if less in degree, the animal "lives longer but suffers from paralysis;" hence, the statement already made that these bacilli generate a tox-albumin as they grow, which gives rise to the constitutional symptoms. So much for the etiology of the disease.

**Prognosis.** The statistics of the mortality differ widely. The reports from many of the best hospitals give the rate at from 31 per cent. to 47 per cent., but widely different are the reports in private practice. Dr. John M. Boyd, of Knoxville, Tenn., in 1888, at the Tennessee State Medical Society, read an article on diphtheria and *veratrum viride*, as the basis of treatment, in which he used the following language: "In the six years since, sixty-seven cases have fallen principally to my care, and a number of others, in which I have had a consultant relation, and under its (*veratrum's*) timely use, its claims to the merits of extraordinary efficiency have never disappointed me." One practitioner in Washington City claims in private practice, fifteen successive cases without a death. (*Va. Med. Monthly*, Feb. 1893, page 908.) Osler holds that in hospital practice the disease is very fatal but that in private practice, except in very malignant epidemics, the prognosis is very good.

My own experience with the disease, whilst limited, is not favorable. Almost without exception the cases of diphtheritic croup where the presence of membrane was fully proven, were fatal. I admit

that one or two recovered out of twelve or fifteen cases seen and reported, but no membrane could be demonstrated except in one case.

In a discussion of the question of membranous croup, which took place in the Gibson County Medical Society this year (1893), the members speaking to the question and taking the position that membranous croup and diphtheria were identical, reported a number of cases which had come under observation. One member reported seventeen cases of diphtheritic croup met with in a series of years, all fatal; another, five cases with four deaths; another, five cases in which tracheotomy had been performed, all fatal; another did not give the number of cases but reported all fatal. The mortality was at least twenty per cent of those cases seen by, and reported to me in the fall of 1882.

This wide difference of results can be accounted for only upon the supposition that many cases are diagnosed diphtheria which are only cases of tonsillitis, or of pharyngitis with an exudate not a false membrane. These exudates *sometimes* so closely resemble the diphtheritic membrane that the eye cannot distinguish them, yet the microscope promptly shows the difference, while the simple test of agitating them in warm water would give strong proof for or against the disease;—the exudate generally readily dissolving, or at least separating into small fragments, whilst the diphtheritic membrane will not. Of course, the "whipping off" test with soft absorbent cotton will aid very materially in making a diagnosis.

**TREATMENT.**—This should be local and constitutional, in accordance with the modern ideas of the disease. Remedies for local application have been almost as numerous as are pharmaceutical preparations. Without attempting to discuss the merits or demerits of the large majority I would simply call attention to those that I have found useful. In the first place I put peroxide of hydrogen. The fact that we find in these pseudo-membranes streptococci pyogenes—the pus generating cocci—and that pus is held in the meshes of this membrane, and the further fact that has been proven beyond cavil, that it hunts out, combines with and decomposes these pus globules proving at the same time a germicide of the highest type,



Hydrogen Peroxide becomes then the application *par excellence* in these cases. This I use if I can, first with a soft mop made of absorbent cotton, and then, in order that I may not fail to reach membranes hidden from sight, I follow by a spray of the same through the anterior nares and mouth. In young children, I use the spray alone to avoid so much worry. I use the reagent undiluted unless I find it irritating; then I dilute as little as possible.

After a few moments rest, with another mop I saturate the membranes wherever visible, with a solution of papoid, (vegetable pepsin) nine grains to the drachm. This, in my hands has proven a powerful solvent of these membranes. These applications are repeated in bad cases every two hours, in milder ones every four hours.

I cannot say that I have gotten any benefit from solutions of iron or chlorate of potash locally in these cases, though I frequently use the potash solution as a gargle with children old enough to use it. In some of my cases I caused sulphur to be blown into the throat to satisfy a popular prejudice, at the same time hoping that it might be converted into sulphurous acid and act as a germicide or by attrition at least aid in wearing off the membrane. Externally I make stimulating applications to the throat.

Recognizing that this disease rapidly becomes constitutional I open up the alimentary canal with a mercural purge and then direct that the secretions of bowels, kidneys and skin be carefully watched and kept normally active.

The high temperature of the first twenty-four or forty-eight hours demands antifebrine or some other of the phenol group of antipyretics, repeated as often as needed to hold the temperature down to or below 100°. Generally there are several days when heart sedatives may not be needed at all, but as the disease progresses it will become necessary to tone and reduce the frequency of the heart's action. This can best be done with digitalis and aconite combined, in small doses often repeated. Later on the aconite must be omitted, the digitalis kept up supplemented by alcoholics freely administered. Alcohol in some form becomes a most valuable adjuvant in the treatment of diphtheria.

As to constitutional remedies, bichlor-

ide of mercury stands first and should be given in full doses every four hours. For a child two years old, I do not hesitate to order one forty-eighth of a grain every four hours, but I should hesitate with so young a child, to go to the extent suggested by Osler, viz: one-half a grain in all, each day. Next in utility is tr. ferri. chlor. in doses of four to ten drops every four hours, for a child two years old, and two grains of quinine at the same time.

Third in value is placed liq. potassii arsenitis, or chloride of arsenic. Favorite prescriptions of mine are

<b>R</b>	Hydrarg. bichlor.....	1 grain
	Alcohol.....	q.d. ft. sol
	Liq. arsenici chlor.....	1½ drachms
	Acid. muriatici dil.....	2 drachms
	Potassii chloratis.....	3 drachms
	Aque.....	q.s., 4 ounces

M. et ft sol.

Sig.—Teaspoonful in water every four hours.

Alternate with tr. ferri mur. in doses already stated every four hours.

I do not propose to refer to all other remedies used, but these have been found valuable in my hands. If, in the course of the disease, diphtheritic croup develops, then an atmosphere charged with the vapor of turpentine and eucalyptol is to be abundantly supplied to the patient, either by surcharging the air of the room by means of a vessel of boiling water containing these medicines (such can easily be arranged with a gasoline stove or large alcohol lamp) or the vapor may be conducted close to the child's face by wetting cloths in the mixture and hanging around the bed. In such cases an emetic will often be needed to dislodge the mucus from the trachea and bronchi. Ipecac in the form of the fluid extract has given me most satisfaction. I generally use it combined with belladonna. Belladonna is strongly indicated in these cases when the blood is not properly aerated.

The question of intubation or tracheotomy presents itself in most of these cases. From the failures in tracheotomy cases I would favor intubation. But it is not the province of an article of this kind to discuss the relative merits of either.

Whatever treatment is adopted, the result depends largely on the nature of the case, whether sporadic or epidemic, whether simple, mild, or malignant. If the etiology assumed is correct, the treatment suggested ought to prove curative. It has done good in my hands; hence I present it.

Sequelæ must be met as they arise, although it is better to prevent them by closely watching the case and resorting in time to proper remedies. For example: The timely use of strychnia, hypodermically or *per orem*, may prevent paralysis. Should it develop, no time has been lost and we are prepared to continue our treatment more regularly.

I have not entered upon the question of prophylaxis, because, in this enlightened age, no one can or will deny the absolute necessity for the adoption of the most thorough and careful preventative measures.

In conclusion, it must not be forgotten that we are dealing with a disease of which the virus or germ, or whatever the source of infection may be, is most tenacious of vitality, and hence, in all cases, everything used around a case of diphtheria should be thoroughly disinfected by heat dry or moist, fumigation with sulphur, washing with bichloride solutions, etc. These measures should include rooms, beds, bedding, clothing, etc. Cases have been reported of diphtheria developing in families which have moved into houses that, weeks or months before, had contained a case of diphtheria.

### FUTHER OBSERVATIONS OF THE RELATION OF PELVIC DISEASE AND PSYCHICAL DISTURBANCES IN WOMEN.

GEORGE H. RHOE, M. D., CATONSVILLE, Md.

At the last annual meeting of this association, it was my privilege to report eighteen cases of removal of the uterine appendages in insane women, with the results following the operation. In supplementing my previous report with this brief paper, I desire to touch upon a feature of the question which has arisen in the interval; namely, the medico-legal relations of this work.

Of the eighteen cases reported last year, three had been discharged recovered at the date of the report. These cases up to the time of this writing, remain well and continue doing their daily household work. One other has been at home for seven months, not entirely well, but so much improved that she can be cared for outside of an insane hospital.

Another case (of seven years' residence in the hospital) has so much improved in disposition since the cessation of the periodical menstrual irritation that I look forward to discharging her from the hospital also.

Since last September I have operated on two additional cases, one of periodical maniacal violence, and the other of melancholia with loud complaints of intense headache. In both cases the ovaries were cystic. The former case has had no outbreak since the operation, but is still detained for observation, while the latter has been discharged entirely recovered, a re-

covery dating from convalescence from the operation.

The simple results of this work are therefore as follows:

Twenty operations (removal of the uterine appendages) upon insane women with pelvic disease. Eighteen physical recoveries from the operation, with improvement of the general health. Two deaths.

Four absolute mental recoveries and discharge of patients from hospital restraint. (2 thirteen months, 1 ten months, 1 two months).

Three with complete physical and partial mental recovery. (1 at home seven months.)

Seven show mental improvement, some of them of a very decided character, but none sufficient to justify discharge from the hospital.

Three remain in about the same mental condition as before the operation but are much improved physically.

One was removed from the hospital a few weeks after the operation against my advice, and then placed in an Asylum, where I am informed she has been growing worse mentally.

I may also refer here to a case of melancholia with suicidal tendencies, in which I repaired a badly lacerated cervix. The operation was followed by rapid restoration of the mental faculties and the patient

was discharged recovered on January 31, 1893. She remains well at the date of writing.

At the time when I began this work I was simple-minded enough to think that the restoration of an insane-woman's mind was an object desirable in itself, even if it involved the loss of organs so unessential to physical life as the ovaries and fallopian tubes, and especially when these were in a state of disease. It seems however that certain influential members of the medical and legal professions regarded this as a grave and dangerous error and believed it a public duty to endeavor to check similar work which had been begun with encouraging success in one of the insane hospitals of Pennsylvania. The objections urged were based upon misconceptions of the scope and character of the work. The weightiest argument against it was an official legal opinion which pronounced it "brutal and inhuman, and not excusable on any reasonable ground." It was further declared to be "illegal and unjustifiable" and to subject the surgeon to "the risk of a criminal prosecution."

These declarations, coming from a lawyer of high standing, led me to pay some attention to this view of the question, and I sought by conversation and correspondence with leading lawyers of my own State, to learn what principles of law, in the absence of specific legislation, had any bearing upon the matter. The question in its specific form seems never to have been adjudicated in any court of record.

In the case of a sane person, courts have uniformly held that if a surgeon possesses ordinary professional knowledge, exercises ordinary skill, and uses ordinary care in the management of his case, no action of malpractice can lie against him. It is, of course, presumed that, in case of an operation, the consent of the patient shall first have been obtained, both parties acting in good faith, and the patient understanding the object and character of the operation. As a matter of course, likewise, any operation for a criminal purpose, even though with the consent of the patient, would not be justified by the courts. Here, as elsewhere, the law is guided by common sense—in the words of an eminent member of the Illinois judiciary, "The law is common-sense." The

only medico-legal questions, therefore, which seemed to me to apply here were such as had relation to what constitutes valid consent.

With this view I drew up three questions and submitted them to one of the professors in the Law Department of the University of Maryland. The answers which follow are clear and comprehensive, and seem to me to require no further comment.

BALTIMORE, MD., MARCH 6TH, 1893.

DR. GEORGE H. ROHE, Catonsville, Md.

*My Dear Doctor:*—After considerable investigation I am prepared to answer the several questions submitted to me by you in your letter of February 17th.

"1. Is an insane person, having lucid intervals of greater or less duration, competent in law to consent to a surgical operation upon his or her body, the result of such operation being removal of certain organs or members not essential to life or health?"

During a lucid interval a lunatic is, in the eye of the law, sane. 19th. Cent. L. J. 427.

The act of a lunatic, during a sane interval, has in law the validity of the act of a sane man.

Pope Law of Lunacy, 18.

Am. & Eng. Enc. of Law, Vol. 2. 112.

Buswell on Insanity, Sec. 17.

I answer, therefore, in reply to the first question that a lunatic, in a lucid interval, is as competent to consent to a surgical operation of any kind as is any person.

Of course, you readily understand that great care is necessary in determining whether or no the consent is given when there is an actual lucid interval, and the law cannot relieve a physician from the responsibility of exercising this care.

"2. In case the person above described is incompetent to legally give consent for the performance of such operation, can the recognized, natural or legal guardians of such persons give consent described?"

According to the theory of law, the State, acting through courts of equity, is the guardian of all insane persons, both as to their persons and property. The equity court appoints a committee as its agent for the discharge of this duty. Such committee is the legal guardian of the person, and has the power to consent to



such measures as may be for the lunatics benefit.

Pope Law of Lunacy, 111.

Md. Code, Art. 16, Sec. 96.

Rebecca Owings case. 2 Blands Chan. 272.

I answer, therefore, that the committee of a lunatic is competent to give consent for the purposes mentioned, assuming, of course, that he and the physician act in good faith.

The law does not recognize any such person as a natural guardian to a lunatic. The father, and, if he be dead, the mother, is the natural guardian of an infant, but the term is not applied to those who have control of persons non compos mentis.

"3. In case a person is always entirely insane have the natural and legal guardians the right to give the consent described?"

I answer on the authorities cited in the answer to the previous question that the committee of an insane person has the right to give the consent.

I may further add, that, even though the committee may refuse, an application to the court of equity, which appointed the committee, would be entertained, and it would be competent for the court to give the consent.

"4. In case neither the patient himself, or herself, or his or her guardians, are competent to give the consent described, has the attending physician the power legally to decide: that an operation, as described above, shall or shall not be performed. In other words Dare a physician perform an operation on an insane person if the latter has no relatives living or known?"

In answering this question it is important to bear in mind that no person can be confined until he has been adjudged insane by proper proceedings, or unless he be dangerous to himself and others.

Pollock on Torts, 108.

Rebecca Owings case, 1 Blands Chan. 272.

Fletcher vs. Fletcher, 28 L. J. Q. B. 134.

Anderson vs. Burrows 4 C. & P. 210.

Lock vs. Deane 108 Mass. 120.

Underwood vs. The People, 32 Mich. 1.

And in the case where confinement is necessary, because a person is dangerous to himself or others, the restraint must be

temporary, and further proceedings immediately taken.

Brown on Med. Jur. Sec. 30.

Commonwealth vs. Kirkbride &c., 2. Breste, 398.

It seems, therefore, clear that a lunatic with no committee cannot against his wishes be detained for any purpose except to prevent him from injuring himself and others, and that his confinement being for that purpose only will not authorize the performance of a surgical operation.

I answer, therefore, that a patient confined without a committee cannot consent to a surgical operation, and the attending physician has not the power legally to decide that an operation is to be performed on such lunatic.

In connection with this subject there are several matters to which I would call your attention.

Surgical operations upon insane persons place the operating physician in a position of delicacy for several reasons. If he relies on the consent of the lunatic he is charged with the duty of determining whether the lunatic is or is not insane at the time of giving the consent. And it is probably true also that insane persons, who recover, are strongly disposed to hold persons responsible who have confined them for insanity, or who may have performed surgical operations on them while confined. Yet the law appreciates the delicacy of this situation. It does not relieve the physician of his responsibility, and of his duty to act with proper caution. It is for this reason that the central principle, in the modern law of insanity, is that the validity of any act of a lunatic depends on his capacity to perform the particular act in question.

People Exrel. Norton vs. N. Y. Hosp.

3rd. Abb. N. C. 229.

The law would, therefore, not exact so high a capacity in a lunatic to consent to a surgical operation, as it would to enter into a contract.

State vs. Housekeeper, 70 Md. 162.

Thus it has been held that a lunatic is capable of being a witness, although not capable of entering into a contract.

3rd. Abb. N. C. 229.

The physician himself must calculate the chances involved, and assume the responsibility of the propriety of the operation, instead of leaving this to the patient as in the case of a sane man.

Ewell on Med. Jur. 289.

A part of the responsibility, which the physician must assume, is to determine whether the insane person has that degree of capacity requisite to consent.

Before closing you will permit me to make some general remarks suggested by my reading and thought on this subject. The law hedges about every person with certain protection to his person, and it makes it the normal rule that no person can in in vitum be even touched by another. *A fortiori*, a surgical operation cannot be performed on a person without his consent. The exceptions relate to persons who are incapable of giving consent by reason of defect of capacity from infancy or insanity. In these cases the power is in the courts of equity to give the consent, and this power the court may delegate to guardians of infants, and committees of lunatics.

There are, however, undoubtedly cases in which, where there is no guardian or committee, emergencies arise or circumstances exist, which make it impracticable to apply to a court of equity. In these

cases the surgeon should act with peculiar caution. If there are friends or relatives of the lunatic, he should, as far as practicable, consult with them, and he should, as far as practicable, avail himself of the judgment of other physicians. If none of these are available, he may in cases have to act on his own judgment and responsibility.

This, in my judgment, after a full reading of the subject, is clearly the position in which the law leaves the matter, and I cannot see that it would be wisdom to change it. If the law gave the surgeon greater power it might constitute a temptation to carelessness or to indulge in experiments.

It may be said that in this class of cases the physician is peculiarly liable to be sued by persons who have recovered or partially recovered their reason. On the other hand it should be borne in mind that the tribunals before such suits are tried, are fully apt to take this fact into consideration.

Very truly,  
RICHARD M. VENABLE.

## CLINICAL LECTURES.

### VALVULAR LESIONS OF HEART, PULMONARY OEDEMA, OLIGOCHROMÆMIA, SIMPLE ANÆMIA.\*

CHARLES G. STOCKTON, M. D.,

This patient is an American aged 34; married. When fourteen she had inflammatory rheumatism with chorea following. She has had tonsillitis every fall since then. Otherwise her health has been good until four weeks ago, when her legs began to swell and she had a cough accompanied by considerable expectoration. Her father was killed in the army, her mother and one sister died of heart disease; otherwise the family history is good.

The history of acute articular rheumatism followed by chorea and several attacks of acute tonsillitis, is significant in connection with the fact that the patient has at present bruits to be heard over various points in the præcordium. In all

probability the bruits were present during the attack of chorea. It is possible, indeed common, for people to live many years without knowing that they have a valvular lesion; which is not, therefore, necessarily a serious thing. It becomes serious when, for any reason, compensatory hypertrophy of the heart does not occur. Aortic insufficiency is, of all lesions, the most difficult to be compensated for; next comes mitral stenosis. Mitral insufficiency and aortic obstruction are usually quite well compensated for, provided the heart is well nourished and well innervated. These requisites can be brought about by maintaining the general nutrition and innervation of the patient by hygienic surroundings, regular but light occupation, exercise, proper food,

\*Record before the Buffalo General Hospital Medical Clinic.

sufficient sleep, and avoidance of excitement and dissipation. Freedom from acute and chronic diseases will enable a heart with valvular lesion to maintain its equilibrium when even a slight disturbance of the general health may be enough to retard the circulation, to produce pulmonary and general venous congestion, with cough, dyspnoea, dropsy, disturbed digestion, enfeeblement of the mental powers, etc. Sooner or later there comes a time when the equation between the valvular weakness and cardiac innervation and nutrition is lost. This hour may be delayed until the patient has reached the natural limit of years; it may follow a severe fever or a period of loss of sleep, overwork or excitement; it may be hastened by anæmia or some other constitutional state. It may be impossible to explain just why the cardiac power has failed at some particular time.

During a fortnight, our patient's pulse has rarely been below 90, while the temperature has ranged irregularly between 98.5° and 102°; the respirations have varied from 30 to 50. This record alone points to some trouble with the lungs, because the respirations are increased proportionately to the pulse and the temperature. We can rule out acute inflammatory diseases on account of the comparatively low temperature. Respiration means not simply the bellows action of the lungs, but the interchange of gases between the red corpuscles of the blood and the cells of the tissues. The rapidity of respiration depends not only upon the capacity of the lungs to supply oxygen to the red corpuscles, but largely upon the demand of the tissues for oxygen and their necessity of giving off carbon dioxide. It is, therefore, not strictly correct to connect an accelerated breathing with pulmonary disability. The respiratory centre in the medulla which calls the lungs into play is stimulated by the presence of carbon dioxide in the blood. You may remember that, some time ago, I brought a patient before you with nothing wrong in the lungs, and with apparently well oxygenated tissues, yet respiration was accelerated and this rapidity of breathing was explained as due to Bright's disease, the retained toxins irritating the respiratory center. I lately saw another case of rapid breathing occurring in connection with puerperal convulsions of renal origin. In

this case also there was no pulmonary lesion. The poisons which excite the respiratory center may not cause any elevation of temperature. Overstimulation of the respiratory centre may occur independently of any toxæmia, and I have reported several cases of rapid breathing of most alarming appearance, in which no organic disturbance could be detected, and which yielded to remedies administered on the hypothesis that the trouble was a neurosis.

But, knowing from the history of the case, of the existence of a cardiac lesion, in all probability of long duration, we naturally ascribe the rapid breathing to some pulmonary affection secondary to the interference with the circulation. The damming back of blood into the lungs is liable to produce oedema, as it would in any other organ. The prolonged congestion may have established a condition of brown induration in addition to the oedema.

On examining this woman's lungs, we find rales, sibilant and sonorous breathing sounds—which should be spoken of as rales—an imperfect respiratory murmur at the bases; dullness on percussion at the bases, becoming gradually less as we go upward, where the respiratory murmur becomes clearer. The rales and the sibilant and sonorous breathing increase as we ascend. There is expectoration of frothy mucus. On the right side the dullness amounts almost to flatness at the base, and the respiratory and voice sounds are distant. There is undoubtedly a little hydrothorax here.

So we have to do with brown induration and oedema of the lungs, bronchitis and slight pleural effusion on one side. The urinary examination is negative.

On examining the blood with the hæmato-spectroscope, we find a clubbing of the oxyhæmoglobin bands in the spectral field, indicating that the blood is imperfectly oxygenated. Comparison of the blood with the color scale indicates that there is about sixty per cent. of hæmoglobin present.

The heart presents a double mitral murmur, showing that there is both stenosis and regurgitation, and dilatation is evident from the weak and wavy cardiac impulse discovered to the left of the nipple line.

The treatment is first to keep the patient warm in bed, in order to lighten



the labor of the heart. Dry cups should be applied frequently over the chest to relieve the engorgement of the lungs, and the surface circulation should be stimulated by frequent hot mustard foot baths and by diffusible stimulants if necessary.

Why do I mention these means before speaking of digitalis, strophanthus and similar cardiac tonics? Because it is better to lessen the venous engorgement of the organs before stimulating the heart; because it is better to draw the blood from the lungs than to force it through them; because by so doing, we not only relieve the lungs but diminish the obstruction offered to the right heart, thereby directly benefitting it. The left heart is also benefitted by bringing blood into the superficial capillaries and thus reducing the pressure in the larger vessels. There is danger in giving digitalis when there is weakness of the left heart, overdistention of the right ventricle, and opposition to the circulation from the congested organs. There is the constant tendency to think of what medicine we shall give. I want to impress the lesson that we must think how best to relieve a diseased condition without having recourse to drugs, by physiological means, by mechanical, electrical, hygienic or other non-medicinal treatment. In pneumonia and various other pulmonary troubles, some men advocate the use of remedies that deplete because, they say, you can not safely stimulate the heart. On the other hand, there is a class who say that it is dangerous to deplete the system. A third and larger class occupy middle ground, and advocate in the beginning depletion and other means that lessen congestion and later stimulants to sustain the heart.

Thus the blood is coaxed or drawn along at first, then pushed or driven forward by digitalis or alcohol if necessary.

The next patient suffers from a high degree of simple anæmia. By *simple anæmia*, I mean one that does not depend upon any striking abnormality aside from that of the red corpuscles. We always find anæmia following malnutrition from any cause, such as indigestion in its various phases, absence of proper food, many acute and chronic diseases. In distinction from simple anæmia, we find a class of anæmias associated with diseases of other organs, for example the spleen, liver, bone-marrow and lymph-nodes.

These anæmias usually have peculiarities besides the condition of the red corpuscles. In simple anæmia, the red corpuscles are much reduced in number; they may be greatly increased in size and distorted. There is a relative increase in the number of white corpuscles and there may be an insignificant actual increase. Much light can be thrown on the nature of anæmia by studying the change in the number, form and size of the blood bodies.

There is another form of anæmia that depends essentially not upon the changes mentioned but upon a fading out of the red corpuscles, that is a deficiency in the hæmoglobin. This disease is called chlorosis because the skin of those affected is usually of a greenish color from the presence of the separated coloring matter of the red corpuscles. This coloring matter—the hæmoglobin—after being carried in the plasma, settles in the various tissues of the body and undergoes chemical change. The liver is almost invariably much darker than normal from the deposition of this pigment.

This patient presents marked evidences of anæmia in the pallor of the face, the conjunctivæ, the lips, the tongue and the gums, in short of all the accessible mucous membranes. Gingivitis, glossitis, conjunctivitis and other inflammations may obscure the anæmic condition of these membranes and, similarly, a lividity of the face from some obstruction to the circulation or an increase in the local blood supply from some disturbance of the sympathetic nervous system may disguise the pallor which we would naturally expect. The last patient, for example, although suffering from a diminution of hæmoglobin to the extent of 40 per cent., presented no marked pallor, but on the contrary some lividity. Thus the color of the skin and mucus membranes can not be relied upon as strictly diagnostic of the richness or poverty of the blood in all cases. But when marked pallor is present in connection with other symptoms, the diagnosis may be made quite positively. This patient is short of breath, her pulse is rapid, especially after exertion, and even the excitement of appearing in clinic is not sufficient to cause a flushing of her face, in spite of the acceleration of the pulse. In the absence of organic disease of the heart, lungs and other viscera, such as were found or suspected in the first

patient, we must explain the acceleration of the pulse and respiration with reference to the condition of the blood. You remember that true respiration is carried on by the aid of the red blood corpuscles. In this case these carriers of oxygen are deficient in number and when the patient makes an exertion or becomes excited or in any other way calls for an activity of some organ, there is a demand for oxygen which can be supplied only by hurrying the red corpuscles through the vessels so that they may become recharged with oxygen in the lungs more frequently. Bearing in mind the importance of oxygen as a nutrient, you can readily understand that a deficiency of it, such as is inevitable in anæmia, will lessen the activity of every organ. There is commonly a sense of languor and an inability for mental exertion, there is a failure of the digestive power and the bowels are usually constipated. There is often a suppression of

menstruation, which is conservative, since the body can ill afford a loss of blood. Even when the menses are not suppressed, as in the present case, they are deficient in color and usually scanty. For some reason that is not very clear, anæmia, especially when of high grade, is usually attended by a slight rise in temperature. This patient's chart shows a range between 98° and 101.5°. In special forms of anæmia, the temperature curve is quite typical, as in the intermittent temperature of leucocythæmia. In simple anæmia, the urine is usually highly acid, which is true in this instance. There has been considerable improvement in the last week, largely on account of treatment by iron. The girl has had one grain of Bland's pills three times daily after eating. She is also taking alkalies, for in anæmia it is important not only to provide iron but to increase the alkalinity of the blood.

## COMMUNICATIONS.

### UTERINE THROMBOSIS FOLLOWING POST-PARTUM HEMORRHAGE, AND ITS RELATION TO PUERPERAL INFECTION.\*

R. W. REYNOLDS WILSON, PHILADELPHIA.

Post-partum hemorrhage is followed by a series of consequences dependent upon thrombosis. The most conspicuous of these are phlegmasia alba dolens and pyæmic infection, although a general infection dependent upon the same cause is to be observed, as demonstrated by the histological study of the subject. In normal involution the contraction and retraction of the uterine muscle is sufficient to prevent bleeding from the sinuses by causing an approximation of the vessel walls. In the absence of normal uterine contractions, dependent upon want of muscular development, or upon loss of blood, as in placenta prævia, or upon over-distention from twins, or hydramnios, hemorrhage is prevented by the formation of the thrombi. On the part of the blood itself, the

increase of fibrin, consequent to the loss of blood, is an important factor in thrombosis. This natural means for controlling hemorrhage approaches a pathological condition, in that it admits of an extension of the thrombi into the veins surrounding the uterus, namely, those of the parametrium and broad ligaments. In this way a direct communication between the endometrium and pelvic veins is set up.

In active involution the blood current is diminished, and the absorptive power of the veins and lymphatics is decreased, whereas in defective involution the amount of blood in the uterus increased, and the lymphatic circulation called more actively into play. According to Winckel (1) the outcome of physiological thrombosis is described as a conversion of the thrombi by the immigration of wandering cells, pro-

\* Read before the Philadelphia Obstetrical Society, May, 1893.

bably with the aid of the endothelium and vaso-vasorum, into a firm connective tissue cord, which at times becomes canaliculated, possibly by the passage of red blood corpuscles, so that the blood current is restored. Thus, under the conditions in which uterine inertia exists, we have hemorrhage giving rise to increased tendency to inertia and to the formation of thrombi, which serve as a dangerous means of communication with the central venous circulation, and as a stimulation of the lymphatics surrounding them. Where elements of infection are absent the thrombi shut off the uterine cavity from the circulation, but where septic material is present they offer, when once affected by the putrefactive changes about them, a means of entrance into the system for the microorganisms which attack them.

Bacteriological research has shown that the normal uterine lochia contain no germs, and may be injected into the body of any animal in any amount without injury. Doderlein (2) found that after a normal labor with a temperature not exceeding 98.4° there were no germs, but when fever was present bacilli and cocci were found until the temperature fell, being eliminated by the very abundant secretion, especially when this was purulent. Micro-organisms may find entrance into the uterine cavity by various means, and when in contact with the endometrium give rise to infection. It has been positively shown that the endometrium is the usual source of infection, for in puerperal ulcers of the vagina we have only a mild form of infection accompanying the local signs, and although the same micro-organisms are present as those which are found within the uterus in puerperal endometritis, they occur only at the seat of infection, and are not found penetrating into the neighboring tissues (3).

Having, therefore, a case of hemorrhage with the occurrence of dilatation thrombosis and the presence of septic material, we have the liability of infection, the process attacking the endometrium and spreading by means of the disorganization of the thrombi along the course of the veins, especially at the placental site, and invading the general circulation.

It will be of interest to study the means by which infecting germs find entrance into the uterus. These may be present before the occurrence of labor in cases in

which hemorrhage is likely to occur, their presence and the liability to hemorrhage being dependent upon the same cause. Namely, in cases of endometritis we have, as has been so forcibly maintained by Pozzi, the presence of pathogenic organisms, the prevailing species being staphylococci (*pyogenes aureus*, *albus* and *citreus*), and various kinds of streptococci. As to the part played by the uterus in cases of hemorrhage due to metritis and endometritis with the presence of the usual pathogenic organisms, Winckel states that a limited metritis, or premature fatty degeneration of the muscles of the pregnant uterus is likely to interfere with the contractile power of the affected area. Endometritis having existed during pregnancy, and present at the time, when uterine contraction and retraction are essential to the arrest of hemorrhage, predispose to bleeding; first, on account of the hyperæmia; secondly, by reason of erosion of already occluded vessels from the presence of mycotic elements; and thirdly, by interference with involution. The question arises, what determines the presence of micro organisms within the uterus in endometritis, and why, if in any such case their existence is proven, should puerperal endometritis and its consequences be the exception rather than the rule? The answer to this lies in the fact that the tissues of the genital tract possess, under normal conditions, a power of resistance to the pathogenic action of the germs which may be present. The vitality of these germs becomes more and more attenuated as they are acted upon by the normal secretions and cellular elements of the tissues. This antagonism of the tissues against the invasion of pathogenic germs continues as pregnancy advances, up to the time of the beginning of labor. The completion of labor, marked by the expulsion of the placenta and discharge of liquor amnii, affords the natural means by which the genital tract is flushed out, and the possibility of the lodgment of germs is prevented. In pathological conditions, on the other hand, that is, in simple endometritis, in contra-distinction to puerperal endometritis, the mucous membrane becomes infected by the invasion of germs which are indigenous to the genital tract. According to Pozzi (4) there exists in the genital tract of the female a zone rich in micro-organisms, situated at the level of



the internal os. The activity of this zone is increased by the general debility of all the tissues, which reduces cellular vitality, or by traumatism. In endometritis the mucous membrane becomes infected from this source, and the ordinary lesions and symptoms follow. In puerperal endometritis we may, in cases where hetero-infection may be excluded, ascribe the condition to an ante-partum infection dependent upon an earlier endometritis, the earlier pathological changes in the uterine mucosa and connective tissue predisposing to hemorrhage, by interfering with contractions, with infection of the resulting thrombi by the germs which are already present. In cases of atony from other causes (want of muscular development, over distention) the treatment which is used to avert the hemorrhage, and the necessary manipulations, may be responsible for the infection. Frequent examinations during the course of labor, hasty and careless manipulations at the time when the patient is bleeding, and carelessness of the principles of asepsis owing to the loss of self-control on the part of the attendant, and the introduction of infected instruments, all contribute to the risk of infection. There exist, therefore, under these circumstances, ample opportunities for the invasion of bacteria.

What, on the other hand, are the natural means of resisting these bacteria in cases of non-infection, and what are the local changes in septic cases, resulting from the action of micro-organisms? Immediately after the expulsion of the placenta the uterus contracts and obliterates the cavity recently occupied by the ovum. This contraction is influenced largely by the nervous condition of the woman, and may be considered as an active process. Under normal circumstances the innervation of the organ produces the active power of contraction irrespective either of the elasticity of the fibres or of the diminution due to shortening of the fibres by retraction. The blood supply is lessened by this contraction, and the vessels at the placental site are compressed by the uterine fibres and emptied of blood. Both the free contents of the uterus, namely, blood and the remaining amniotic liquid, and the adherent shreds of decidua are expelled. As soon as the tonic contractile power of the uterus is established, retraction of the muscle (fatty

degeneration of the muscular fibres) and regeneration of the mucous membrane take place. Together with the lessening in size of the uterus by retraction, there is an increase in the development of intra-glandular tissue and a reconstruction of the mucosa from the epithelium springing from the remaining glands. The exudation which accompanies this process, together with the migration of white corpuscles and the secretion from the cervical canal, constitute the lochial discharge. As to the local changes occurring in the course of infection, we have these normal processes modified as follows: First, as a predisposing cause of infection we have the absence of uterine contraction. As a result, the hemorrhage from the sinuses is controlled, not by pressure, but by thrombosis; secondly, the uterus contains, also incident to the absence of contraction, remnants of decidua, or placental debris, these, together with the thrombi projecting from the placental site, act as foreign bodies, and are prone to putrefactive changes; thirdly, the reconstruction of the mucous membrane is replaced by necrosis of the epithelium and basement membrane; fourthly, the normal constituents of the lochial discharge are replaced by the putrefactive debris of disorganized thrombi, the remnants of decidua and necrotic mucous membrane, mixed with the various micro-organisms which accompany these putrefactive changes. In order to appreciate the relation of such changes to the development of infection, it will be necessary at this point to study the histology of puerperal endometritis.

According to Bumm we have commonly to deal with the following forms:

*Putrid Endometritis.*—In this form putrefaction occurs from the presence of saprophytic organisms. The bacteriology of this condition is still undeveloped; as to the histology, we find that the necrotic decidua is cut off by a zone of cellular infiltration, by which the various micro-organisms present are prevented from penetrating into the underlying tissues. Invasion of the thrombi, however, at the placental site, is not prevented by any such zone of reaction on account of the want of organization of the thrombotic tissue.

*Septic Endometritis, occurring in two forms.*—First, a localized septic process in which a granulation zone occurs (con-

trary to what is found in the form mentioned above), shutting off the necrotic endometrium and preventing the invasion of germs. The uterine lymphatics are not actively involved. The placental site, as in the putrid form, is most markedly affected. Secondly, a septic endometritis, accompanied by a general infection. Bumm has studied five cases belonging to this class, and has found in three instances that infection has occurred by invasion through the lymphatic system, and in two instances along the course of the veins. In the first set of cases, the placental site is free from micro-organisms and thrombi, so that it is not likely that this pathological condition bears upon that form of infection resulting from hemorrhage in which thrombi, especially at the placental site, occur. In the second set of cases, the smaller lymphatic branches surrounding the sinues are marked by colonies of cocci, which extend into larger lymphatics underlying the peritoneal covering of the uterus. The decidua is disorganized and infiltrated with a fibrinous exudate, presenting a diphtheritic appearance. In this class of cases, as well as in that about to be described, the granulation zone is absent. This fact has evidently an important bearing upon the function of such a zone of demarkation, in combating the progress of micro-organisms into the underlying tissue.

Thirdly, a *thrombotic form of infection*; and this is the form which concerns us principally in the discussion of post-hemorrhagic infection. This is characterized by both a putrid and septic endometritis. It is described by Bumm as follows:

"The decidual layer of the uterine cavity, in a state of necrosis, is beset with micro-organisms. In the neighborhood of the colonies of streptococci, outlined by the staining process, are scattered innumerable colonies of putrefactive germs. The histological relations of the tissues—that is the decidual, glandular, and muscular tissues in the necrotic area—is unrecognizable."

The zone of reaction is marked. The placental site presents no remains of the placenta, but is marked by the projection of thrombi. The latter are found to be infected by various pathogenic germs, are disorganized, and offer, by reason of their disorganization, a direct means of entrance for the septic products into the current of

the blood. The disorganization occurs first in the axis of the thrombi. The endothelium and the vessel wall become rapidly affected and break down into a mass of necrotic tissue mixed with white corpuscles and infected with cocci and bacilli.

In conclusion, we may summarize the development of infection as a result of thrombosis by noting the following events: First, a predisposition to infection arising in cases of hemorrhage the result of atony of the placental site; secondly, the formation of thrombi which offer, on account of their want of vital organization, an improper means of resistance to infecting germs; and thirdly, the presence of infecting material either from the pre-existing endometritis or from contamination at the time of delivery by careless or frequent examinations. When these factors are present we have a resulting infection occurring in accordance with the histological changes described above.

Clinically we are apt to consider pyæmia as the type of infection occurring as a result of thrombosis. Such a view is based upon, first, the frequency of the occurrence of phlegmasia following phlebitis, either by extension from the veins of the broad ligament or by the lodgment of coagula washed from the placental site and carried into the hypogastric veins and obstructing the flow of blood through the crural veins; and, secondly, upon the occurrence of embolism from the detachment of thrombi from the placental site or the parametrium. But it is more likely, from the histology of endometritis in the puerperal state, that the thrombi act more as a channel by which pathogenic germs find entrance into the organism than as a direct means of conveyance by their detachment and circulation in the blood-current. We have observed in the thrombotic form of endometritis that the disorganization of the thrombi is a pathological change dependent upon the action of bacteria, and that the natural barrier to the entrance of infecting elements is removed by this process of disorganization. According to this, the blood-current is likely to be contaminated, not by the remnants of uterine coagula, but by the presence of pathogenic bacteria and their chemical products. These, carried along in the blood-current, may be reasonably supposed to set up inflammatory changes, causing

the patient's condition was such that I limited manipulation and disturbance of her position to the interference necessary in securing an examination for diagnosis.

The question of practical interest suggested by this case lies in the avoidance of the syncope which destroyed the patient's life. Is it possible to remove so large a mass from the abdominal cavity without producing such a change in circulation as to cause fatal syncope? Two methods of treatment were available one the partial emptying of the cyst, stitching its wall to the abdominal wall and using drainage; the second was the complete removal of the cyst as practiced. Had firm adhesions been present, no effort would have been made to remove the tumor; it would have been partially emptied, with the hope of prolonging the patient's life by the operation. The fact that the tumor could be separated without great difficulty from the abdominal wall led us to practice total removal, believing that the patient's chance of ultimate recovery would be sufficient to warrant the procedure. We were led to operate upon the case by the patient's desire for relief, by the threatening syncope from which she had already suffered, and by her remarkable and persistent strength, and her previous history of uniformly good health.

CASE II is an example of abscess over the coccyx without appreciable cause, and accompanied by pain at the sacro-coccygeal joint, completely relieved, first by evacuation of the abscess, and then by extirpation of the coccyx. The patient, Mrs. B., was first seen in the eighth month of her first pregnancy; her health had been good; her pelvis was normal; the foetus occupying the second position, its heart-sounds were plainly discernible. She complained of a painful swelling to the left of the coccyx and above the junction of coccyx and sacrum. This swelling gave indistinct fluctuations, and was painful upon pressure. On vaginal examination, pressure upon the coccyx revealed great tenderness, also to the left of the articulation with the sacrum. She stated that, three months previously, a similar swelling had appeared, which was dissipated without treatment. She said that, before her marriage she had been fond of riding, but at times had been obliged to dismount by reason of pain in this region. When asked if she could recall a bruise,

fall, blow, or direct injury to the part, she could not do so. Under antiseptic precautions the tumor was incised, emptied of an ounce of foul, sanious pus, and a careful examination with the finger and probe was made to detect caries of the bone. This was apparently absent, a smooth cavity only being found. A pyogenic membrane was curetted away, the cavity irrigated and packed with gauze. Uninterrupted recovery followed.

At the patient's labor she experienced marked pain when the head reached the pelvic floor. Her child, a female, was small, and the delivery was readily accomplished under anaesthesia by chloroform. Her puerperal period was marked by no complications.

Five months after her labor she requested further relief for pain in the coccyx. Previous to her marriage she had been a trained nurse, understood the details of surgical operations, and desired to avoid any such procedure if possible. I could detect no hysterical element in the case, but the patient and her husband were convinced that treatment was requisite.

On vaginal examination the genital tract was found in a normal condition; the patient's general health was excellent; the position of the uterus was normal, but pressure upon the cervix gave rise to an indistinct, grating sensation and to the complaint of acute pain upon the part of the patient. The coccyx was accordingly removed, and found to be of normal length and dimension. The articulation between the sacrum and coccyx was slightly roughened, but no evidence of caries, necrosis, or suppuration could be found. The scar of the previous abscess was firm, and the abscess had been completely obliterated. The patient was entirely relieved by the removal of the coccyx, and continues in good health.

The interesting point in regard to the case is an explanation of the occurrence of this abscess when the history of no septic infection could be obtained. The usual causes of abscess in this region are violence, sinus, or fistula connecting with the intestine, and septic infection of the genital tract, septic infection after labor, accompanied by mechanical injury to the parts; by the foetus, or the instruments used by the obstetrician. The most rational explanation of this case is afforded by the interesting examples found in surgical



literature, where abscess cavities without communication with surrounding parts have been observed in this region of the body, as the result of a persistence of the fetal medullary canal. Most of these cases occur in males, and hair is found in these cavities. The continued irritation of the parts by pressure has explained a non-septic necrosis which results in the formation of abscess in this region. In many of these cases an external opening is found near the coccyx, admitting a small probe from which a sinus proceeds along the walls of

the intestine. Pavement epithelium is often found upon the walls of these cysts when hair is not present. Cases similar to that reported have been reported by Terrillon, Goodsall, Warren and Beach. An interesting research upon this subject is that by Mallory, of the Harvard Medical School, published in the *American Journal of the Medical Sciences* for March, 1892, page 263. The relation of such sinuses and cysts to the coccyx is well shown by Mallory in reproductions of microscopic sections through embryos of various ages.

### CLINICAL OBSERVATIONS IN PHILADELPHIA.

W. H. LINK, M. D., PETERSBURG, IND.

Having lately passed some three months in Philadelphia, studying the materials, methods and results that obtain among the great surgeons of this city, I shall try, through the medium of the REPORTER, to set forth the advantages and disadvantages of Philadelphia as a place for post-graduate study for those men of the West and South who every year migrate toward the great medical centers of the country seeking the latest and the best in both medicine and surgery.

In the first place Philadelphia is cheap. Both board and lodging are exceedingly low. One can find good accommodations ranging from \$4.50 to \$6.00 per week. Instruction is given at moderate prices. To a man of wealth these things would be of no special importance; but the average country doctor is not noted for the large and increasing size of his bank account, and the meanest thing about him is his income. The length of his stay will thus depend largely upon the cost of living.

Philadelphia offers superior advantages for the study of abdominal surgery. In this branch she excels. There is not a man in her confines doing abdominal surgery as a specialty who is not a superior operator and teacher. The abdominal surgeons, too, take great delight in showing their work. Every facility for close and accurate observation is offered visiting physicians. The amount of material is apparently inexhaustible. If one will arrange his engagements properly, he may

see from three to ten sections a day. In a twelve-weeks' course he can see the whole field of abdominal surgery covered—tumors, pus cases, hysterectomies, liver surgery, gut work, hernias, anything and everything to which pelvic and abdominal surgery comes for relief or cure.

If one stays in Philadelphia three months and takes advantage of his opportunities, and then goes home and fails to do good abdominal work, it will be due to defects inherent in himself rather than to a want of good and sufficient teaching.

The general surgery of Philadelphia, taken as a whole, is not so good as that of the gynecologists, and a great many of the general surgeons manifest but little desire to have their work observed. There are, of course, brilliant exceptions to this rule, which I will notice further on.

The Polyclinic has two admirable surgeons on its staff, who do a large amount of work, and as the classes are usually small at any one time, attending physicians have abundant opportunity to study each case and every operation at close range and master both the principles and diagnosis and the technique of the operation.

Dr. B. F. Baer holds a clinic three days in the week at the Polyclinic Hospital, and always has something of interest to show the class. Baer's methods of teaching cannot be improved upon. The class, small in number, are each permitted to

the internal os. The activity of this zone is increased by the general debility of all the tissues, which reduces cellular vitality, or by traumatism. In endometritis the mucous membrane becomes infected from this source, and the ordinary lesions and symptoms follow. In puerperal endometritis we may, in cases where hetero-infection may be excluded, ascribe the condition to an ante-partum infection dependent upon an earlier endometritis, the earlier pathological changes in the uterine mucosa and connective tissue predisposing to hemorrhage, by interfering with contractions, with infection of the resulting thrombi by the germs which are already present. In cases of atony from other causes (want of muscular development, over distention) the treatment which is used to avert the hemorrhage, and the necessary manipulations, may be responsible for the infection. Frequent examinations during the course of labor, hasty and careless manipulations at the time when the patient is bleeding, and carelessness of the principles of asepsis owing to the loss of self-control on the part of the attendant, and the introduction of infected instruments, all contribute to the risk of infection. There exist, therefore, under these circumstances, ample opportunities for the invasion of bacteria.

What, on the other hand, are the natural means of resisting these bacteria in cases of non-infection, and what are the local changes in septic cases, resulting from the action of micro-organisms? Immediately after the expulsion of the placenta the uterus contracts and obliterates the cavity recently occupied by the ovum. This contraction is influenced largely by the nervous condition of the woman, and may be considered as an active process. Under normal circumstances the innervation of the organ produces the active power of contraction irrespective either of the elasticity of the fibres or of the diminution due to shortening of the fibres by retraction. The blood supply is lessened by this contraction, and the vessels at the placental site are compressed by the uterine fibres and emptied of blood. Both the free contents of the uterus, namely, blood and the remaining amniotic liquid, and the adherent shreds of decidua are expelled. As soon as the tonic contractile power of the uterus is established, retraction of the muscle (fatty

degeneration of the muscular fibres) and regeneration of the mucous membrane take place. Together with the lessening in size of the uterus by retraction, there is an increase in the development of intra-glandular tissue and a reconstruction of the mucosa from the epithelium springing from the remaining glands. The exudation which accompanies this process, together with the migration of white corpuscles and the secretion from the cervical canal, constitute the lochial discharge. As to the local changes occurring in the course of infection, we have these normal processes modified as follows: First, as a predisposing cause of infection we have the absence of uterine contraction. As a result, the hemorrhage from the sinuses is controlled, not by pressure, but by thrombosis; secondly, the uterus contains, also incident to the absence of contraction, remnants of decidua, or placental débris, these, together with the thrombi projecting from the placental site, act as foreign bodies, and are prone to putrefactive changes; thirdly, the reconstruction of the mucous membrane is replaced by necrosis of the epithelium and basement membrane; fourthly, the normal constituents of the lochial discharge are replaced by the putrefactive débris of disorganized thrombi, the remnants of decidua and necrotic mucous membrane, mixed with the various micro-organisms which accompany these putrefactive changes. In order to appreciate the relation of such changes to the development of infection, it will be necessary at this point to study the histology of puerperal endometritis.

According to Bumm we have commonly to deal with the following forms:

*Putrid Endometritis.*—In this form putrefaction occurs from the presence of saprophytic organisms. The bacteriology of this condition is still undeveloped; as to the histology, we find that the necrotic decidua is cut off by a zone of cellular infiltration, by which the various micro-organisms present are prevented from penetrating into the underlying tissues. Invasion of the thrombi, however, at the placental site, is not prevented by any such zone of reaction on account of the want of organization of the thrombotic tissue.

*Septic Endometritis, occurring in two forms.*—First, a localized septic process in which a granulation zone occurs (con-

trary to what is found in the form mentioned above), shutting off the necrotic endometrium and preventing the invasion of germs. The uterine lymphatics are not actively involved. The placental site, as in the putrid form, is most markedly affected. Secondly, a septic endometritis, accompanied by a general infection. Bumm has studied five cases belonging to this class, and has found in three instances that infection has occurred by invasion through the lymphatic system, and in two instances along the course of the veins. In the first set of cases, the placental site is free from micro-organisms and thrombi, so that it is not likely that this pathological condition bears upon that form of infection resulting from hemorrhage in which thrombi, especially at the placental site, occur. In the second set of cases, the smaller lymphatic branches surrounding the sinues are marked by colonies of cocci, which extend into larger lymphatics underlying the peritoneal covering of the uterus. The decidua is disorganized and infiltrated with a fibrinous exudate, presenting a diphtheritic appearance. In this class of cases, as well as in that about to be described, the granulation zone is absent. This fact has evidently an important bearing upon the function of such a zone of demarkation, in combating the progress of micro-organisms into the underlying tissue.

Thirdly, a *thrombotic form of infection*; and this is the form which concerns us principally in the discussion of post-hemorrhagic infection. This is characterized by both a putrid and septic endometritis. It is described by Bumm as follows:

"The decidual layer of the uterine cavity, in a state of necrosis, is beset with micro-organisms. In the neighborhood of the colonies of streptococci, outlined by the staining process, are scattered innumerable colonies of putrefactive germs. The histological relations of the tissues—that is the decidual, glandular, and muscular tissues in the necrotic area—is unrecognizable."

The zone of reaction is marked. The placental site presents no remains of the placenta, but is marked by the projection of thrombi. The latter are found to be infected by various pathogenic germs, are disorganized, and offer, by reason of their disorganization, a direct means of entrance for the septic products into the current of

the blood. The disorganization occurs first in the axis of the thrombi. The endothelium and the vessel wall become rapidly affected and break down into a mass of necrotic tissue mixed with white corpuscles and infected with cocci and bacilli.

In conclusion, we may summarize the development of infection as a result of thrombosis by noting the following events: First, a predisposition to infection arising in cases of hemorrhage the result of atony of the placental site; secondly, the formation of thrombi which offer, on account of their want of vital organization, an improper means of resistance to infecting germs; and thirdly, the presence of infecting material either from the pre-existing endometritis or from contamination at the time of delivery by careless or frequent examinations. When these factors are present we have a resulting infection occurring in accordance with the histological changes described above.

Clinically we are apt to consider pyæmia as the type of infection occurring as a result of thrombosis. Such a view is based upon, first, the frequency of the occurrence of phlegmasia following phlebitis, either by extension from the veins of the broad ligament or by the lodgment of coagula washed from the placental site and carried into the hypogastric veins and obstructing the flow of blood through the crural veins; and, secondly, upon the occurrence of embolism from the detachment of thrombi from the placental site or the parametrium. But it is more likely, from the histology of endometritis in the puerperal state, that the thrombi act more as a channel by which pathogenic germs find entrance into the organism than as a direct means of conveyance by their detachment and circulation in the blood-current. We have observed in the thrombotic form of endometritis that the disorganization of the thrombi is a pathological change dependent upon the action of bacteria, and that the natural barrier to the entrance of infecting elements is removed by this process of disorganization. According to this, the blood-current is likely to be contaminated, not by the remnants of uterine coagula, but by the presence of pathogenic bacteria and their chemical products. These, carried along in the blood-current, may be reasonably supposed to set up inflammatory changes, causing



phlebitis, and especially to produce the development of a general septicæmia. There is no doubt that the formation of emboli is a common result of the detachment of thrombi from the placental site, but, in the study of the subject from a histological point, we are not warranted in accepting the occurrence of pyæmia as the universal clinical associate of thrombotic infection the result of hemorrhage, and, on the other hand, we are warranted in assuming the possibility of a marked state of septic endometritis occurring after hemor-

rhage without the early association of pyæmic symptoms.

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### THE TREATMENT OF LARGE OVARIAN CYSTS, WITH THE REPORT OF A CASE; EXTIRPATION OF THE COCCYX FOR CONGENITAL CYST.\*

EDWARD P. DAVIS, M. D., PHILADELPHIA.

It is my purpose to night to report the clinical histories of these cases, inviting discussion upon them by the members of the society.

CASE I, of large ovarian cyst, occurred in the person of Mrs. V—, aged 55 years, seen by me in consultation for an abdominal enlargement. The history of the case was briefly as follows: The patient had been of extraordinary muscular development; by occupation a market-woman, she had enjoyed exceptionally robust health. At a time not accurately described by herself and family, she first noticed an enlargement of the abdomen; this must have been three or four years before I saw her. This enlargement was painless, slowly increasing, and had been variously diagnosticated as dropsy and tumor. The diagnosis of ovarian cyst had not been stated to the patient, although it may have been made by some of the numerous physicians who saw her.

When I first visited her she was undergoing treatment for the relief of dropsy, this treatment consisting in the administration of a diuretic mixture and the occasional employment of purgative medicines. On examination, the patient was markedly emaciated above the sternum; her thighs were moderately swollen, her legs less so than her thighs; her arms were

wasted. Her expression was not markedly cachectic, and a typical ovarian face was not clearly developed. Her pulse varied from 100 to 110; her respiration was not noticeably difficult; she was cheerful, complaining of no pain, but of the increasing load and drain upon her muscular strength, occasioned by the abdominal enlargement. She was unable to lie down, resting in a partly reclining posture, usually on the right side. She could not sit upright, as the abdominal enlargement had descended so far as to protrude between her thighs. She was taking a fair amount of nutriment, and complained of no pain. She strongly desired to know the nature of her disease, and, if possible, to have the size of the abdominal enlargement decreased, or the condition radically remedied.

A superficial examination of the abdomen by palpation, and a partial vaginal examination, convinced me that a positive diagnosis could not be readily made under the circumstances in which I found the patient. She was accordingly told that it would be unjustifiable to even puncture her abdomen in her own house, and that a proper diagnosis and treatment of her condition could only be obtained in a hospital, where antiseptic precautions were possible. She was accordingly brought to the Polyclinic Hospital some time afterward, it being necessary to place her in a partially recumbent position, in a wagon, to transport her to the hospital.

\*Read before the Obstetrical Society of Philadelphia, May 1, 1893.

She was there examined by my colleagues, Dr. Baer and Dr. Morton, and by my friend, Dr. George E. Shoemaker. The following condition of the abdomen was observed:

Its enlargement was very great, and is best shown by the photographs done by Dr. White, of the resident staff, which I show to the Society. The skin of the abdomen was brawny and thickened, and at the first sight simulated closely some of the hypertrophies of the integument occasionally seen; indistinct fluctuation was obtainable upon the left side of the abdomen, while at the right and upper portion a sensation of greater resistance was detected. Vaginal examination was negative, as the tumor descended so far externally that it was very difficult to make a satisfactory investigation. It was learned from the patient's daughter that she had had, in the preceding few months, several attacks of syncope, which had occasioned considerable anxiety among the family. A diagnosis was made of probable ovarian cyst, and an exploratory incision, and, if practicable, the removal of the tumor, were advised. The patient's family were informed that her death in a short time was unavoidable if she was not relieved; that the chance of saving her life was questionable, and that the only relief lay in surgical interference, probably of a radical nature. It was observed that the patient retained remarkable muscular power, being able to partially raise herself and move about upon her bed in a manner indicating her former strength of physique and constitution. She and her family consented to the operation, and after suitable preparation, with the assistance of Dr. Shoemaker, Dr. Morton and Dr. Baer, the abdomen was opened.

To place the patient in position for operation it was necessary to provide an additional table for the tumor. As she could not lie upon her back she was turned upon her right side, the tumor lying upon a small table. As syncope was feared, oxygen was at hand, and an electric battery and various stimulants. It was determined to mitigate the tremendous change in the physical conditions of the circulation, which the emptying of the tumor would produce, by removing the contents as slowly as possible, making continuous pressure during this time. An incision through the abdominal wall revealed,

as was expected, the sac of a cystic tumor. This was punctured by a trocar, when a large amount of chocolate-colored fluid escaped. More than a half hour was consumed in emptying the fluid, the patient meanwhile enduring the operation fairly well. The cyst was but very slightly adherent to the wall of the abdomen, and it seemed quite possible to completely remove the tumor; accordingly, the tumor was separated from the abdominal wall. It was found to be a multilocular cyst, its largest portion lying beneath the liver. The solid parts were broken down as rapidly as possible, and the entire mass removed. Its pedicle was from the right ovary, and was so small as to scarcely require ligation. No adhesions calling for ligature were found, and the hemorrhage which accompanied the separation of the cyst was inconsiderable.

The patient partially collapsed during the removal of the solid portion, but was relieved by inhalations of oxygen and the use of an electric battery, accompanied by the injection of stimulants. The removal of the tumor demonstrated the great changes which its enormous size had caused in the body of the patient; the lower ribs had been turned outward and upward, and the distended abdominal walls lay in folds against the spinal column.

As quickly as possible the abdominal cavity was freely flushed with a hot saline solution, the incision closed and large masses of cotton were bandaged firmly above an antiseptic dressing. The patient reacted from the operation, her temperature being 97.5° and then 98°; her pulse 120 and 130. She became conscious and complained of no pain. Six hours later, without appreciable warning, she died in sudden syncope.

No post-mortem examination could be obtained, but symptoms of hemorrhage were never present. The condition of the patient's kidneys and bowels was normal before and after the operation.

The solid portion of the tumor weighed nine pounds; seventeen gallons of fluid were collected during the operation, the weight of the fluid being 17½ ounces to the pint. The total weight of the solid and liquid portions of the tumor reached the great total of 160 pounds. Microscopic examination of the fluid showed cholesterolin and hæmatin, blood cells and anomalous epithelia. No measurements were made of the tumor before its removal, as

the patient's condition was such that I limited manipulation and disturbance of her position to the interference necessary in securing an examination for diagnosis.

The question of practical interest suggested by this case lies in the avoidance of the syncope which destroyed the patient's life. Is it possible to remove so large a mass from the abdominal cavity without producing such a change in circulation as to cause fatal syncope? Two methods of treatment were available one the partial emptying of the cyst, stitching its wall to the abdominal wall and using drainage; the second was the complete removal of the cyst as practiced. Had firm adhesions been present, no effort would have been made to remove the tumor; it would have been partially emptied, with the hope of prolonging the patient's life by the operation. The fact that the tumor could be separated without great difficulty from the abdominal wall led us to practice total removal, believing that the patient's chance of ultimate recovery would be sufficient to warrant the procedure. We were led to operate upon the case by the patient's desire for relief, by the threatening syncope from which she had already suffered, and by her remarkable and persistent strength, and her previous history of uniformly good health.

CASE II is an example of abscess over the coccyx without appreciable cause, and accompanied by pain at the sacro-coccygeal joint, completely relieved, first by evacuation of the abscess, and then by extirpation of the coccyx. The patient, Mrs. B., was first seen in the eighth month of her first pregnancy; her health had been good; her pelvis was normal; the fœtus occupying the second position, its heart-sounds were plainly discernible. She complained of a painful swelling to the left of the coccyx and above the junction of coccyx and sacrum. This swelling gave indistinct fluctuations, and was painful upon pressure. On vaginal examination, pressure upon the coccyx revealed great tenderness, also to the left of the articulation with the sacrum. She stated that, three months previously, a similar swelling had appeared, which was dissipated without treatment. She said that, before her marriage she had been fond of riding, but at times had been obliged to dismount by reason of pain in this region. When asked if she could recall a bruise,

fall, blow, or direct injury to the part, she could not do so. Under antiseptic precautions the tumor was incised, emptied of an ounce of foul, sanious pus, and a careful examination with the finger and probe was made to detect caries of the bone. This was apparently absent, a smooth cavity only being found. A pyogenic membrane was curetted away, the cavity irrigated and packed with gauze. Uninterrupted recovery followed.

At the patient's labor she experienced marked pain when the head reached the pelvic floor. Her child, a female, was small, and the delivery was readily accomplished under anæsthesia by chloroform. Her puerperal period was marked by no complications.

Five months after her labor she requested further relief for pain in the coccyx. Previous to her marriage she had been a trained nurse, understood the details of surgical operations, and desired to avoid any such procedure if possible. I could detect no hysterical element in the case, but the patient and her husband were convinced that treatment was requisite.

On vaginal examination the genital tract was found in a normal condition; the patient's general health was excellent; the position of the uterus was normal, but pressure upon the cervix gave rise to an indistinct, grating sensation and, to the complaint of acute pain upon the part of the patient. The coccyx was accordingly removed, and found to be of normal length and dimension. The articulation between the sacrum and coccyx was slightly roughened, but no evidence of caries, necrosis, or suppuration could be found. The scar of the previous abscess was firm, and the abscess had been completely obliterated. The patient was entirely relieved by the removal of the coccyx, and continues in good health.

The interesting point in regard to the case is an explanation of the occurrence of this abscess when the history of no septic infection could be obtained. The usual causes of abscess in this region are violence, sinus, or fistula connecting with the intestine, and septic infection of the genital tract, septic infection after labor, accompanied by mechanical injury to the parts; by the fœtus, or the instruments used by the obstetrician. The most rational explanation of this case is afforded by the interesting examples found in surgical



literature, where abscess cavities without communication with surrounding parts have been observed in this region of the body, as the result of a persistence of the fetal medullary canal. Most of these cases occur in males, and hair is found in these cavities. The continued irritation of the parts by pressure has explained a non-septic necrosis which results in the formation of abscess in this region. In many of these cases an external opening is found near the coccyx, admitting a small probe from which a sinus proceeds along the walls of

the intestine. Pavement epithelium is often found upon the walls of these cysts when hair is not present. Cases similar to that reported have been reported by Terrillon, Goodsall, Warren and Beach. An interesting research upon this subject is that by Mallory, of the Harvard Medical School, published in the *American Journal of the Medical Sciences* for March, 1892, page 263. The relation of such sinuses and cysts to the coccyx is well shown by Mallory in reproductions of microscopic sections through embryos of various ages.

### CLINICAL OBSERVATIONS IN PHILADELPHIA.

W. H. LINK, M. D., PETERSBURG, IND.

Having lately passed some three months in Philadelphia, studying the materials, methods and results that obtain among the great surgeons of this city, I shall try, through the medium of the REPORTER, to set forth the advantages and disadvantages of Philadelphia as a place for post-graduate study for those men of the West and South who every year migrate toward the great medical centers of the country seeking the latest and the best in both medicine and surgery.

In the first place Philadelphia is cheap. Both board and lodging are exceedingly low. One can find good accommodations ranging from \$4.50 to \$6.00 per week. Instruction is given at moderate prices. To a man of wealth these things would be of no special importance; but the average country doctor is not noted for the large and increasing size of his bank account, and the meanest thing about him is his income. The length of his stay will thus depend largely upon the cost of living.

Philadelphia offers superior advantages for the study of abdominal surgery. In this branch she excels. There is not a man in her confines doing abdominal surgery as a specialty who is not a superior operator and teacher. The abdominal surgeons, too, take great delight in showing their work. Every facility for close and accurate observation is offered visiting physicians. The amount of material is apparently inexhaustible. If one will arrange his engagements properly, he may

see from three to ten sections a day. In a twelve-weeks' course he can see the whole field of abdominal surgery covered—tumors, pus cases, hysterectomies, liver surgery, gut work, hernias, anything and everything to which pelvic and abdominal surgery comes for relief or cure.

If one stays in Philadelphia three months and takes advantage of his opportunities, and then goes home and fails to do good abdominal work, it will be due to defects inherent in himself rather than to a want of good and sufficient teaching.

The general surgery of Philadelphia, taken as a whole, is not so good as that of the gynecologists, and a great many of the general surgeons manifest but little desire to have their work observed. There are, of course, brilliant exceptions to this rule, which I will notice further on.

The Polyclinic has two admirable surgeons on its staff, who do a large amount of work, and as the classes are usually small at any one time, attending physicians have abundant opportunity to study each case and every operation at close range and master both the principles and diagnosis and the technique of the operation.

Dr. B. F. Baer holds a clinic three days in the week at the Polyclinic Hospital, and always has something of interest to show the class. Baer's methods of teaching cannot be improved upon. The class, small in number, are each permitted to

examine the patient, make a diagnosis and prescribe the treatment. He then discusses the case with them and corrects any errors that have been made. If an operation is indicated, the class get a close view of the work and are thus permitted to study the case both from below and above. The old speculum system of teaching, or the Ferguson peep-show, has no place with Baer. As an operator, Baer holds an enviable position. His results are very good, and he throws open the wards of the hospital and invites inspection of his cases in their convalescence. Baer has some ideas of his own, which place him in a solitary position among the abdominal surgeons of Philadelphia.

He opposes drainage, as a rule, and he undoubtedly practices what he preaches. He very rarely drains. I saw him remove huge pus tubes and ovarian abscesses during which the pelvic cavity was bathed in great quantities of pus. He irrigated carefully and closed without drainage. The patient made a prompt and painless recovery. He also gives morphia if his section cases suffer pain. He does a supravaginal hysterectomy, which is a most beautiful operation to look at. The operation consists in tying off the ovarian and uterine arteries, cutting the uterus away at the crevix and covering the retracted stump with the peritoneum by means of a few Lembert sutures. The only question about the operation is its mortality. He has twenty-seven cases with two deaths. If he can keep his mortality this low it will compare favorably with the operation by the *nœud* and give a quicker convalescence.

What one sees in Baer to approve, are his self-reliance, his courage, his thoroughness, his practical methods of teaching and his splendid results. To appreciate him at his worth, one should see him operate often. At first, he seems to be indecisive, hesitating, but as you see more of him, you find that what appeared to be nervousness and vacillation is only a species of somnambulism in which he merely thinks aloud and goes on with the work while talking to himself. His underlying strength and skill soon rise to the surface and when the work is complete you behold in the finished product a conquest that bespeaks a master. There are some minor things in Baer's technique that one might criticize, but, in the face of such splendid

results as he shows, criticism seems akin to carping, so I refrain.

Dr. J. M. Baldy operates at both the Polyclinic and Gynecean Hospitals. His work is to be commended for his faultless technique as to asepsis and his boldness as an operator. He is very cool and collected and does not lose his head however trying the complication that may arise. Baldy is especially free from hobbies. He does good plastic work and I think shows good sense in doing Emmet's operation on the perineum without attempting to spoil a most beautiful and perfect piece of surgery by some modification of his own. We have yet to see anyone modify Emmet's works who did not convince us that the modification greatly marred the beauty and efficiency of the work. Baldy is one of the most fluent talkers at the Obstetrical Society and as a writer and teacher he makes himself easily understood. As to his results I cannot speak, as I saw none of his cases after operation, but presume that they are good, for his surgery was both clean and skillful. Both Baer and Baldy are warm admirers of the Trendelenburg position. They use it in most of their work and certainly the position, in their hands, appears to great advantage. In deep hemorrhage especially, it seems to supply a long felt want.

Dr. Joseph Price has a daily clinic in the diseases of women at the Philadelphia Dispensary. He does most of his surgical work at his private hospital, 241 N. 18th St. In this hospital he has about 90 beds and when crowded can make room for one hundred beds. Besides his work here, he does a great deal of consultation work both in and out of the city.

Large numbers of men come to observe Price's work. They represent every state in the Union and every one of the Canadian provinces. A great many stay and observe for a short time, whilst others take a course with Dr. Price of from six to twelve weeks. For this he charges from one to two hundred dollars. In this course the student-doctor makes a diagnosis and prescribes treatment at the dispensary. If the case is surgical, he assists Dr. Price to operate. All the operations are most carefully and thoroughly demonstrated. During the twelve weeks that I was with him, he did from two to five sections a day, and frequently as many as three plastic operations in one day.

He is a great operator, and, what is better, a great teacher. His technique is the simplest and most perfect it has ever been my good fortune to observe. His diagnostic skill is a marvel to those who have a chance to see it exercised. He operates for positive disease only, and not for any troubles that cannot be identified and located by the tactus. In all the numerous sections observed by me in his practice, I never yet saw him open the belly for anything but the most positive and easily demonstrated disease. His skill as an operator is so great that the work he does seems to the bystander easy till he tries it himself. He never, at any time or under any circumstances, loses his head or becomes in the least rattled. If a trying hemorrhage unexpectedly occurs, the only evidence of its effect on him is an increase of moisture on his brow. He uses but few instruments and the leading characteristics of his work are simplicity and the most absolute cleanliness. So perfect is the drill that he has put himself through, that when from any cause his hands are soiled, they appear like a fish on dry land and seem uncomfortable and instinctively move toward the water. He operates as a skillful musician plays the violin, his fingers always find the proper position at the right time, but it has been done so often that the action has almost become automatic and scarcely requires an effort of the mind and will. His sections now number over two thousand, while his mortality is near three per cent.

He has done 85 extra-uterine pregnancies with one death, and his mortality in hysterectomies is 5 per cent. While I was with him he had but three deaths at his hospital, and saw the patients daily, after section, until they left for home. Dr. Mordecai Price, the brother of Joe, is also a great surgeon, whether judged by his knowledge, operative skill or successful results. He is now doing almost as much work as his brother, and is doing it just as well. Both of these men do a large amount of plastic gynecology, and while their abdominal work is almost beyond criticism, their plastic surgery is simply a beautiful exhibition of the surgeon's art. They both do Emmet's operation on the perineum and believe it the best operation of the kind ever developed or perfected for the purpose. They give Emmet full credit

for his work, and do not attempt to rob him of his just dues by a useless or harmful modification of their own. The fact is, Emmet has done for plastic gynecology in America just what Tait has done for abdominal surgery in England, and it would be much better for suffering women if those who offer them surgical relief would take the work as Emmet has perfected it and not mar a really beautiful procedure by some fancied improvement of their own. The work of the Prices is daily increasing and they are now doing over 600 sections a year. This may seem a large amount of work, but when we remember that they draw their material from British America to Cuba and from California to Massachusetts, that patients come to them from every State in the Union, it will not seem so large. They have no idle moments and know no Sunday.

The general surgery of Philadelphia is no discredit to her old-time reputation. But since the days of Agnew, Pancoast and Gross some changes have crept in. Then the best and most brilliant work was done by the old men. In fact, Agnew's success all came to him after 45. Now with probably two exceptions, Morton and Keen, the really valuable, original, brilliant and successful work is done by the younger men. Roberts, Deaver and White are all worthy to wear the mantle of any of Philadelphia's great surgical teachers of the past.

Dr. J. William White is professor of surgery in the University. He is a natural teacher and no one is readier to recognize it than the students who sit under his tutelary wing. He is a clear, fluent and instructive lecturer. His operative skill impresses all visiting physicians so favorably that they desire to see all of it possible. Dr. White is a great stickler for antiseptics; but his antiseptics is not an excuse for slovenly technique, for it is joined to the most perfect asepsis.

Being a personal friend and a great admirer of Sir Joseph Lister and Mr. Frederick Treves, he believes strongly in the virtue of germicides but does not neglect cleanliness. The fact is, White's aseptic precautions, and the automatic exactitude with which he applies and observes them in his work, would ensure success in the most difficult abdominal surgery. In Dr. White are most happily combined



the brain of a cultured surgeon and scholar with the body of an athlete, and to the *mens sana in corpore sano* is added in the freest manner the polished manners of a gentleman. His kindness and courtesy to visiting surgeons are tireless, while nothing exhausts his patience.

Should one desire to work a short time in a good clinic and under an able specialist and teacher in diseases of the nose and throat, he will find all that he may wish at the Pennsylvania Dispensary, cor. 13th and Chestnut Streets. The nose and throat department of this dispensary is in charge of Dr. J. L. Hammond. He is one of the rapidly rising young men of the city. He has marked diagnostic skill, and as a

manipulator of instruments and a teacher of others he certainly has few superiors. Dr. H. while working at this specialty wisely devotes himself to general practice, and this broadens and deepens his knowledge against the day when his practice will be so large that he will be compelled to confine himself to a special line of work.

There are hospitals and dispensaries and schools enough in Philadelphia to keep any number of post-graduate attendants busy from morning till night if they were systematized so that hours and days would not conflict. But so long as only a few men exhibit a desire to show their work, a very large amount of valuable material must of necessity go to waste.

## ABDOMINAL HYSTERECTOMY WITHOUT A PEDICLE, WITH REPORT OF TEN CONSECUTIVE CASES\*

RUFUS B. HALL,† M. D., CINCINNATI, OHIO.

The best methods of treating the pedicle in abdominal hysterectomy has been a subject for contention for years. There have been two principal methods which have been universally accepted—the intra-peritoneal and the extra-peritoneal, and for a number of years one or the other of these has been recognized as the orthodox plan.

As we might naturally expect, there have been many modifications and improvements in minor technique of Schröder's and Pean's methods, as originally practiced by them. As our knowledge of the pathological conditions and complications to be overcome in removing fibroid tumors increased, and our operative experience became broader and more mature, the Pean method of extra-peritoneal fixation of the pedicle became the one which was almost universally employed. For this reason it will be the method most frequently used in making comparison in this paper. The cause of the extra-peritoneal method being the one most frequently employed is obvious when we recall the fact that only a small percentage of all fibroid tumors are suitable cases for

treatment by Schröder's method, by those advocating it, and of these it was not possible to control hemorrhage in all cases; and, above all, the Pean method gave the best results.

Those of us who have made many abdominal hysterectomies for the removal of large tumors know that the tumor may, and not infrequently does, descend into one of the broad ligaments and body of the uterus so far that we must separate it from its peritoneal envelope before a suitable pedicle can be made and fixed outside. Manifestly, these complicated cases are not suitable ones for the intra-peritoneal method, even by the most ardent advocates of it, and have, therefore, heretofore been treated by the extra-peritoneal method by most operators. We are all aware of the fact that, if we use the intra-peritoneal method, we are in great danger of losing our patient from intra-abdominal hemorrhage; and, if we use the extra-peritoneal method, we not infrequently see the pedicle slough and become a menace to the life of the patient for days afterwards, and not a few die from septic infection from that cause. If the patient makes a primary recovery from the extra-peritoneal method she is not in all cases restored to health. She not infrequently suffers great pain,

\* Read by title at the American Medical Association, 1893.

† Professor of Clinical Gynecology, Miami Medical College.

due to the pedicle dragging upon the abdominal scar and pressure upon the distorted pelvic organs interfering with their functions because of the fixation of the pedicle. The prolonged and painful convalescence which necessarily follows this method is a very serious objection to it, and not infrequently a hernia follows the operation, at or near the point where the pedicle was fixed in the abdominal wound.

If we can remove these objections without additional risks to our patients, it is our duty to do so. Thanks to the ingenuity and skill of American gynecology, we have now a method which promises all the advantages of both of the old methods, with but few of their disadvantages.

It was one of these desperate cases, in which the operator had to "enucleate large nodular masses from the broad ligament," that induced Eastman to remove the entire cervix in his first total extirpation operation. The success in that case encouraged him and others to continue making the operation, improving the technique in minor details until it is very near, if not quite perfect. The procedure has distinct merit over all other methods, and it is upon this basis we ask a hearing before the profession at this time.

First: There is no pedicle to become necrotic, and thereby a source of septic infection, or fatal hemorrhage.

Second: There is no more danger from hemorrhage than after ovariectomy.

Third: There is no more raw surface left in the peritoneal cavity to favor intestinal and omental attachments than after ovariectomy.

Fourth: It is no more difficult than many other abdominal and pelvic operations, and does not require any more time to perform it.

In patients with thick abdominal walls this method promises as good results as in those with thin abdominal walls, which cannot be said of the extra-peritoneal method. There is no distortion of the pelvic organs, thus interfering with their functions. There is a comparatively painless convalescence, which is shortened at least two weeks under that of the extra-peritoneal method.

These are a few of the advantages of the method as suggested to me in my experience with it.

There is not as much danger of hemorrhage as there is in simple ovariectomy, from the fact that in the latter operation the pedicle is transfixed and ligated in mass; and in not a few cases the pedicle is short and thick, with great tension upon it, favoring the slipping of the ligature and hemorrhage. In total extirpation the broad ligaments are divided from the uterus and ligated in sections which are not put upon the stretch, therefore there is but little if any danger of a ligature slipping off. The ligatures do not include any uterine tissue, therefore the tissue within their grasp is not susceptible to undue shrinkage and resulting hemorrhage. There is no raw surface left in the pelvic cavity after the operation is completed, except the ovarian stumps, to form attachments to intestine or omentum.

After ligating off the ovaries upon both sides, the peritoneum only is divided about one inch above the top of the bladder, across the front of the tumor and at a corresponding height on the back of it. This is done before any temporary clamp is placed. The peritoneum is then stripped down in front and the bladder separated from the tumor down to the vagina, and the peritoneum stripped from the tumor behind. All of the ligatures required in the subsequent steps of the operation are placed so as not to include the peritoneum in their grasp. The number of ligatures in any of my operations has not exceeded three upon each side after the peritoneum was stripped down. One end of each ligature securing the uterine arteries is left about six inches long, and after the cervix has been removed, is carried out through the vagina, and are cast off or removed through that passage. The peritoneal edges which were stripped from the tumor are now turned in towards the vagina and neatly coapted from one ovarian stump to the other by a running stitch, thus closing off entirely the raw surface in the vagina from the peritoneal cavity. The wound in the vagina is treated the same as after an ordinary vaginal hysterectomy.

The difficulties attending the operation are not so great as one who has not attempted it would suppose, and they are easily and rapidly overcome by one skilled in performing difficult and complicated abdominal and pelvic operations; and the

time required to perform the operation is no longer than that required to make many of the difficult abdominal and pelvic operations now being performed daily.

It has been said that by the removal of the cervix the key of the arch of the pelvis is destroyed, and a weak point is the result, which will in a certain percentage of cases result in vaginal prolapses or hernia. Such an accident has not followed the operation, to my knowledge, neither has it occurred after vaginal hysterectomy; and I do not believe it would occur any more frequently after abdominal hysterectomy than vaginal hysterectomy, where the two conditions after operation are identically the same; and we do not hear of objections to the latter operation on that account.

The method has stood the test admirably fulfilling every indication and requirement even better than its friends had anticipated. I am convinced that the method has come to stay, and in the near future the clamp in abdominal hysterectomy will as certainly be a thing of the past, as it now is in ovariectomy.

I make this assertion advisedly, knowing full well that it is a radical one which is not likely to be readily assented to by many operators. In proof of my confidence in the method, I here give a short report of all the cases I have operated upon by this method, ten in number.

Many of the cases were very undesirable subjects for any operation, and most of them proved to be complicated operations as you will see, thus testing thoroughly the merits of the method.

CASE I. Mrs. W., aet 50. Referred to me by Dr. Joseph Eichberg of this city. Operated upon February 4, 1892, and a tumor weighing 22 pounds removed. There were firm and extensive adhesions to intestines and omentum and abdominal walls, as well as in the pelvis. There was an abscess in the pelvic cavity holding a pint or more of pus. This abscess was ruptured and its contents spilled inside of the peritoneal cavity during the operation. Patient recovered and is now in excellent health.

CASE II. Mrs. P., aet 52. Referred to me by Dr. Means, of Troy, Ohio. Operated upon March 31, 1892. The tumor extended to one inch above the umbilicus. She made a rapid recovery and is now in good health.

CASE III. Mrs. F., aet 37. Referred to me by Dr. Templeton, Covington, Ohio. Operated upon September 11, 1892. At that time patient had been suffering from septic peritonitis for 12 days, caused by the strangulation of a pedunculated portion of the tumor the size of a small orange. At the time of the operation, pulse 138, temperature, 103°. There was a pint or more of dark colored fluid in the peritoneal cavity. The tumor was a large one, extending up to the ribs. The patient made a prompt recovery and is now in good health.

CASE IV. Miss H., aet 42. Referred to me by Dr. J. G. Senour, of Troy, Ohio. The physician of a neighboring city removed the ovaries and tubes June 3, 1892. This operation failed to check the growth of the tumor or the hemorrhage. A few months after the operation the hemorrhage was worse than before. The tumor filled the entire pelvic cavity and projected well up into the abdomen. The operation was made December 2, 1892. The bladder was carried up almost to the top of the tumor and had to be dissected from it. There were extensive and firm intestinal adhesions to the left side of the tumor, corresponding to the point where the ovary had been removed. In the right side of the abdominal and pelvic cavities there were many adherent coils of intestine which were separated with the utmost difficulty. One coil was adherent behind the tumor deep down in the pelvis to the stump from whence the right ovary had been removed, and had to be separated by the sense of feeling before the tumor could be delivered. The intestine was intensely lacerated in liberating it. The peritoneal covering of the intestine at the point of injury was entirely stripped from it, and the adhesions were so firm and extensive that it was impossible to trace out the intestine to a healthy portion so as to make a resection. The intestinal injury was repaired with sutures, but could not be brought up so as to make an artificial anus. The patient rallied well, and in three hours had a pulse of 70, and a temperature of 99°. But to my very great regret the fluid removed from the drainage tube had a eulent odor, showing conclusively that the intestines at least leaked gases. The patient died the 5th of December from septic peritonitis, due to intestinal leakage. The death was not due to any fault of the



total extirpation method, and the result would have been the same by any method of treating the pedicle, as it was plainly due to intestinal leakage.

CASE V. Miss J., æt 39. Referred to me by Dr. Blair, Lebanon, Ohio. The tumor was a soft œdematous fibroid. Profuse hemorrhage. Operation March 9, 1893. Patient made a prompt and uninterrupted recovery.

CASE VI. Miss M., æt 40. Referred to me by Dr. Rhu, of Marion Ohio. Tumor extended well into the abdomen and was firmly adherent in the pelvis. Operation March 16, 1893, after an attack of acute peritonitis of fourteen days duration. Patient recovered.

CASE VII. Mrs. T., æt 44. Came to the clinic of the Miami Medical College for treatment. The tumor extended to three inches above the umbilicus. Pain and hemorrhage. Operation at the Presbyterian Hospital, March 30, 1893. Patient made a prompt and easy recovery.

CASE VIII. Miss S., æt 39. Referred to me by Dr. Blair, of Lebanon, Ohio. Large, soft, œdematous fibroid of sixteen years' standing. Tumor extended about four inches above the umbilicus. Profuse hemorrhage, great anæmia, and extreme weakness. Operation April 29. Prompt recovery.

CASE IX. Mrs. B., æt. 33. Referred to me by Dr. Heaty, of Glendale, Ohio. Profuse hemorrhage and severe pain. Operation May 15, 1893. Tumor size of cocoanut. Double pyosalpinx and suppurating ovaries with six ounces of pus on left side. Universal adhesions. Patient recovered.

CASE X. Mrs. N., æt. 52. Referred to me by Dr. Dewitt, this city. Profuse hemorrhage for three years. Tumor extended three inches above the umbilicus and was firmly fixed in the pelvis. Great pain and marked anæmia, and extreme weakness. Operation May 23, 1893. Extensive intestinal adhesions, large suppurating ovary holding eight ounces of pus, which was ruptured and its contents spilled inside of the cavity during the operation. Patient recovered.

I have heretofore been so prejudiced against the operation of hysterectomy that I have refused to operate as long as the patient's condition could be made tolerable. But with the present good results following total extirpation, I shall here-

after advise operation earlier for fibroids. Considering the nature of the cases constituting this report, the results are all, or even more, than could be expected.

#### The Weight of the Two Sides of the Brain.

Prof. Braune, of Leipzig, has recently published the results of weighing the halves of 100 human brains. These were divided in the median line, and the cerebellum, with the medulla and pons, were cut off and bisected. The weight of the two sides of the whole encephalon were compared, as well as that of the cerebral hemispheres, and the halves of the cerebellum with the medulla and pons. It has generally been taught that the left half of the brain is heavier than the right, and that this is a physical cause of right-handedness. The results of Prof. Braune's investigations do not seem to bear this out. He found the left side of the entire brain heavier in 52 cases, and the right in 47 cases, the two sides being equal in one case. And he also found that if the excess of weights of the two sides be added up, the right side showed a preponderance, the difference between the two sides being in most cases so slight as not to deserve any consideration. In five cases in which the right side considerably outweighed the left, the bodies were examined for signs of left-handedness, but none were found. The left cerebral hemisphere was the heavier in 54, the right in 37 cases; while the left side of the cerebellum was the heavier in 54 and the right in 33 cases. Thus he found that the cerebral hemisphere of one side is the larger about as often as the cerebellum of the other; but the larger halves are on the same side about twice as often as on different sides.—*Boston Medical and Surgical Journal*.

An exchange publishes the following bill-head of a doctor in Kansas: "A prompt settlement of this bill is requested. If bills are paid monthly a discount of ten per cent. is allowed. Bills not paid monthly will be passed to my attorney for collection. If you pay your doctor promptly, he will attend you promptly, [night or day, rain or shine; while your slow neighbor suffers and waits, as he made the doctor wait, and while he is waiting the angels gather him in."

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SATURDAY, JULY 15TH, 1893.

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## EDITORIAL.

### MEDICAL ASSOCIATIONS.

Men are gregarious. They work best by division of labor. Individuals differ in capability for achievement as in capacity for enjoyment. Methods and tastes are as varied as individuals are numerous. It is by aggregation that the common weal is best conserved, the weakness of one being supplemented by the strength of another and the benefits of superior strength or skill diffuse among the many. A general average is thus maintained which prevents the social organism becoming lop-sided or top-heavy. The resultant of many and diverse forces is constant and uniform in direction and accomplishes what would be impossible to the individual. Countless diversities massed into a homogeneous power, a force irresistible by presenting obstacles. Association, like a smelting furnace, reduces to shining metal the gross crude ore alike with delicately-wrought filagree works of art.

For mutual encouragement, for mutual help, for the greatest good to the greatest

number, medical associations are organized. Their philosophy should be preeminently utilitarian and Jeremy Bentham should be canonized as patron saint.

The greatest good to the greatest number is the motto most worthy to be engraved upon their official seals.

Bacon says, "reading makes a full man, writing an exact man, and speaking a ready man." To read in order that one may observe intelligently, write accurately and speak readily and exactly is a most laudable ambition. But without personal association there is no audience to whom to address what has been written, and no intelligent ears to receive ideas when spoken. Discussion brushes away cloudy ideas, crystallizes nebulous hypotheses, sharpens the wit, gives command of a vocabulary, makes comprehension easy, and compels close study and advised speaking. One will carefully scan facts and their relations if they are to pass through the flame of criticism and will

make knowledge his own before subjecting it to the keen scrutiny and ready and sharp criticism of assembled fellows who accept nothing as gold because of its glitter.

Ideas beget ideas, as steel strikes fire from flint. The very discussion of the subject insures its closer study; thus self-improvement carries with it an extension of benefit to all who appear within the charmed circle. The assembling of large bodies of men interested in the same subjects and pursuing similar lines of thought kindle enthusiasm, arouses ambition, stimulates investigation, and often fixes the attention on interesting parts of the work which had hitherto been overlooked in the eager pursuit of other parts. Personal association broadens the mind, elevates the thought, and develops love for the less sordid aspect of daily professional tasks. To the conscientious practitioner the annual society meeting takes him from the labor and anxieties of his round of toil, gives a much needed variation to his life, and affords rest and recreation. At the same time it brightens up his armor by the attrition of friendly minds one upon the another. He goes back to duty refreshed and replenished, and made stronger in every sense of that word.

Our object then in the organization of a medical society should be the pursuit of knowledge, the development of mind, the strengthening of purpose, the evolution of truth and the general elevation of the standards of professional honor and professional acquirements. In doing these things a certain mutual touch of mind and a communion of spirit beget broader views and inspire more enthusiastic investigation, the glamour of philanthropy may crown the driest of facts, and the prophet's vision vie with the poet's dream in connecting the commonest achievements of the present into the immeasurable blessings of the future.

So long as a medical society keeps before it only these ulterior objects, so long as it ignores politics and advertising, just so long is it a great boon to the rank and file of the profession. Let work, and work only, year by year, draw the members together and power for good will increase as time rolls by; but the very moment men forget these ends and begin to organize small cliques for office and advertisement, a great black mark is placed across the fairest escutcheon and men begin to spend time in laying pipe and working for votes and influence. Bitterness and strife and back-biting appear and the hard working and simple member to whom such things are disgusting drops out and looks elsewhere for the mental pabulum that he is disappointed in finding. Let the offices and all such emoluments be conferred upon the very old men who can fill a chair gracefully and fairly though they may no longer be desirous of taking part in the laborious work of writing papers and leading the discussions. The position of president or presiding officer is but an empty honor and ought to be the reward of long service if it is valued as a reward. Young men should be content to lead the battle against disease. If Nestor is present, let him preside, Achilles and Ulysses can fight and talk. Age in the chair commands and deserves respect, while on the floor age may not always be synonymous with wisdom.

#### Gonorrhœa.

A committee of the Therapeutical Society of Paris reported favorably on the use of the urethral bougie of M. Weber in incipient gonorrhœa. This bougie is prepared as follows:

<b>R</b>	Gum arabic in powder.....	15 pts.
	Lactose.....	5 pts.
	Glycerine.....	1 pt.
	Iodoform.....	2 to 4 pts.

**M.** Make ten bougies 13 cm. long.

Bougies thus prepared are soft and supple. They should be introduced at night, on retiring. They melt in the urethra, and are expelled without effort in urinating.—*Med. Review.*



## REPORT OF THE COMMITTEE ON LEGISLATION.

[Advance Sheets of the Transactions of the Medical Society of the State of Pennsylvania.]

The Legislative Committee respectfully reports that it has at last been able to secure the passage of an efficient medical act by the Senate and House of Representatives of Pennsylvania.

By the provisions of this law, which still awaits the approval of the Governor, no one can enter upon the practice of medicine in this State after March 1, 1894, unless he or she has a competent common school education, has received a medical diploma, and has been granted a license to practice medicine and surgery by the Medical Council of Pennsylvania, after an examination by a State Board of Medical Examiners.

Applicants for license, who have received their medical degrees after July 1, 1894, are not eligible for examination and license unless they have attended three courses of medical lectures in three different years; and those who have received their medical degrees after July 1, 1895, are not admitted to examination for license unless they have studied medicine for a period of four years, three of which must have been in college.

The Committee believes that few, if any, States of the Union have laws which will protect the public from medical incompetence more efficiently than this enactment of the Pennsylvania Legislature; and it therefore congratulates the public and the profession on the successful outcome of the work undertaken nine years ago by this Society.

A short history of the efforts of the Society may here be of interest.

At the meeting held in Philadelphia May, 1884, various resolutions were offered by Dr. L. M. Gates, of Scranton, Dr. Edward Jackson, then of West Chester, now of Philadelphia, and Dr. John B. Roberts, of Philadelphia, having for their purpose a separation of the teaching of medical students from the examination and licensing of intending practitioners of medicine.

During the fall and winter of the same year, committees of the Philadelphia County Medical Society and of the Medical Jurisprudence Society of Philadelphia, in conjunction, formulated a bill establishing a State Board of Medical Examin-

ers and Licensers, which was presented to the Legislature for enactment at the session of 1885. A copy of this bill was subsequently presented by Dr. Roberts, for the consideration of the Section on State Medicine of the American Medical Association, at the New Orleans meeting in the spring of 1885, and was referred by that section to the general meeting of the Association. The Association thereupon passed a resolution advocating the establishment in every state and territory of a State Board of Medical Examiners and Licensers, directed the Permanent Secretary to transmit a copy of the proposed law to each state society, and requested each state society to report upon the subject to the Association in 1886.

In consequence of this action of the American Medical Association, the Medical Society of the State of Pennsylvania had before it for discussion at the Scranton meeting in 1885, not only the report of its committee on the "Best Method of Granting the License to Practice Medicine," but also a completely drafted bill. Much attention was, therefore given to the subject, and a committee was authorized to prepare a bill for presentation to the Pennsylvania Legislature. At the Williamsport meeting in June, 1886, the committee reported a bill modeled to some extent on that proposed and advocated by the Medical Jurisprudence Society of Philadelphia, which had been sent to the Society by the American Medical Association as above detailed. The original bill had been introduced in the Legislature of 1885, as has been mentioned, but had failed to become a law.

Since this action successive committees of the Society have been earnestly engaged in organizing the profession, for the purpose of educating the public as to the necessity of medical legislation to protect the citizen from medical ignorance; and bills have been introduced at each session of the Legislature only to meet with successive defeat.

The present committee was authorized to have the bill, adopted by the Society at the Harrisburg meeting of last year, introduced in the Legislature convening January 1st of this year (1893). It accordingly had the bill introduced in the

House of Representatives by Hon. Henry K. Boyer, and in the Senate by Hon. Charles A. Porter. The committee, in addition, published and distributed a twenty-eight page pamphlet, showing the constitutionality of such legislation, the need of a law in this State, and the favorable view of the bill held by many representative physicians, who, from all sections of Pennsylvania, furnished the committee with written approvals. In this pamphlet were also published resolutions unqualifiedly endorsing the bill passed by the faculties of the Jefferson Medical College, the University of Pennsylvania, the Woman's Medical College of Pennsylvania, and the Philadelphia Polyclinic.

When the bill had been before the Legislature for two and a half months, it became evident to the committee that its earnest and unremitting efforts would be unavailing, and that the bill as then drafted could not be enacted into law. The passage of the bill as introduced was vehemently opposed by the sectarian physician of the State and by certain gentlemen belonging to medical schools and county medical societies in affiliation with this Society. Although your committee might have been able to have secured the passage of your bill against the wishes of one of these forces, it could not accomplish the work against such a combination of antagonistic agencies.

On March 19th, 1893, therefore, the committee held a conference meeting with prominent officers of the Society and representative members of the faculties of the University of Pennsylvania, Jefferson Medical College, the Woman's Medical College of Pennsylvania and the Philadelphia Polyclinic. As a result of this conference the committee decided that to modify the bill in such a manner as to secure the passage of a law, similar to that which has been so satisfactorily operative in the State of New York, was wiser than to permit the open and hidden enemies of higher medical education to rejoice at having once more defeated the Society's efforts to give Pennsylvania an effective medical law. It was also thought that if a medical bill was not passed at this session of the Legislature, it was probable that there would be little chance of any such legislation being effected for many years to come.

Accordingly the bill which passed both houses of the Legislature last week (May 10th) was substituted for the original bill, and successfully pushed to final passage. A copy of the law is appended to this report. Its provisions are briefly as follows:

From March 1st, 1894, the Medical Council of Pennsylvania shall have control of the examination and licensing of all physicians intending to enter upon practice in the State.

The Medical Council shall decide as to the competency of the preliminary education of intending practitioners and as to their moral character; and must require them to have a medical diploma conferring the full right to practice all the branches of medicine and surgery. Diplomas granted to such applicants after July 1st, 1895, must have been obtained after four years medical study, three of which years must have been in college.

When these facts have been satisfactorily proved by affidavit, the applicant for license pays a fee of twenty-five dollars and is referred for examination to one of the three State Boards of Medical Examiners, which substantially act as committees under the supervision of the Medical Council.

The three State Boards of Medical Examiners are appointed by the Governor from the members respectively of the Medical Society of the State of Pennsylvania, the Homœopathic State Medical Society and the Eclectic State Medical Society; and consist each of seven members.

The applicant makes a choice of the Board by which he wishes to be examined; but the questions must be the same before the three Boards in all branches except materia medica, therapeutics and practice of medicine. The Medical Council, moreover, selects the questions for all examinations from lists of questions submitted to it by the three Boards of Examiners. The examinations must be in writing and the questions, answers and marks preserved for reference.

The Medical Council, having received notice that an applicant has passed a successful examination, issues its license, with the seal of the Commonwealth attached, to the candidate, if he be adjudged by the Council to be duly qualified to practice medicine and surgery.

The Council fixes the standard of qualifications, and has a veto on all rules and

regulations adopted by the three Boards of Examiners. It may issue licenses without examination to physicians licensed by Medical Examining Boards or Boards of Health of other states.

The Medical Council consists of the President of the State Board of Health and Vital Statistics, representing the medical branch of the State Government, the Attorney General, representing the legal department of the Government, the Superintendent of Public Instruction, representing the Educational department, and the Lieutenant Governor and the Secretary of Internal Affairs, representing the Legislative and Executive departments, and finally the Presidents of the three State Boards of Medical Examiners.

The Committee, in closing this lengthy and perhaps tedious report, wishes to express its heartiest thanks to Hon. Henry K. Boyer and Hon. Charles A. Porter, who introduced the Society's bill in the House of Representatives and the Senate, respectively, and also to those physicians and other members in both Houses; who, by their counsel and advocacy of the bill, rendered incalculable aid. In this place it is also proper to express its great obligation to Hon. Frank M. Riter of the House of Representatives and Hon. John B. Showalter of the Senate; who two years ago so actively advocated the passage of the bill introduced by this Society.

When the bill had very nearly reached the point of final passage, it was found

that the committee's expenses would exceed the appropriation made by the Society for its use. The members of the committee, however, concluded that they would bear the additional expenses personally, rather than permit the bill to fail, after the Society had so nearly reached the goal for which it had been striving for nine years. All bills paid by the Society have been scrutinized by the Secretary of the Committee, approved by its Chairman, and then sent to the Publication Committee by which orders have been drawn on the Treasurer as required by the laws of the Society. The expenses incurred by the Committee, in excess of the appropriation will be something less than one hundred and fifty dollars.

Since the work assigned to the Committee has now been practically completed, the Committee respectfully asks to be discharged.

All of which is respectfully submitted.

H. G. McCORMICK, *Chairman.*

W. MURRAY WEIDMAN,

J. W. MOORE,

I. C. GABLE,

C. L. STEVENS,

W. S. FOSTER,

JOHN B. ROBERTS, *Secretary.*

[The law to which the above report refers was published in the *MEDICAL AND SURGICAL REPORTER*, June 3, 1893.—*EDITOR.*]

## CORRESPONDENCE.

### "THE POINTS OF SIMILARITY"

TO THE EDITOR: Dr. Roberts' discussion of "The Points of Similarity between us and Homœopathic Physicians" in the issue of the *REPORTER* of May 27th, is interesting and suggestive. The obvious criticism might be offered—which casts no reflection on the author of the excellent paper—that whether the statements made are viewed as an apology for or an elucidation of the actual practice of Homœopathy, they might have come more appropriately from a member of the Homœopathic school. It would seem that the

members of a medical sect which represents the objection of a small minority of the profession to the general principles of therapeutics followed by the majority, would, ipso facto, be placed on the defensive. Until the homœopathic school was organized, there was really no such thing as a *school* or sect of medicine in the present sense of the term. There were individual differences of opinion both as to theory and practice, there were national and local jealousies in the days when narrow-mindedness and bigotry pervaded



all ranks of society, but whatever general organizations of physicians existed were based on a common interest in a common life work. Perhaps it is the natural sympathy for the "under dog" that occasions the popular sentiment of antagonism to anything that savors of hostility to the "new school." Even those of the laity who are not avowedly attached to Homœopathy wonder that physicians should expect from one another less of open rivalry and more of occurrence in opinions and methods than do those engaged in other professions and business. But for several reasons it is desirable that the medical profession should be united. The results of their work to the community at large are of transcendent importance, since health and life, instead of wealth and convenience are at stake. Financial errors may be rectified, imperfect handicraft corrected or restitution made, wrong legal opinions revised and decisions appealed, but, on the part of the physician and surgeon, a mistake, or a failure to adopt the best possible method is seldom without evil result and is usually irrevocable. Again, while a merchant can entrust almost everything, except the general supervision of his affairs, to subordinates whom he can hire for six to fifteen dollars a week and can feel satisfied if his business is carried on with financial honesty and success, the physician's money-making though important, is nevertheless, trivial in comparison with the labor of scientific study and careful practice. Every detail of his strictly professional duties must receive his personal attention and must be done accurately. He is continually confronted in his patients with problems which require a familiarity with chemistry, physiology, anatomy, psychology, bacteriology, microscopy, pathology, medical jurisprudence and other branches of study and a practical experience which no one man unaided can acquire. Physicians therefore, more than any other body of men are interdependent and grow to feel that every doctor who is not with them is against them.

The laity are inclined to draw comparisons between schools of medicine and religious sects. The analogy holds good to the extent that the homœopathic school was a splitting off of a small body from an originally undivided profession, but there are the marked differences that in medicine there never has been fixed

creeds except those adopted by dissenting sects, nor has the regular school been bound to any formalism other than the code of ethics, which is simply an application of the Golden Rule and general principles of honor to special cases, and to which, as Dr. Roberts observes, no serious objection is offered by Homœopaths. Moreover, a man's goodness or badness, religiously speaking, depends not so much on the correctness of his dogmas as upon his intentions, while medical practice is good or bad according to whether the ideas which it follows are right or wrong.

A closer comparison can be made to the legal profession, in which, at present, the term *school* (in the sense of sect) is utterly meaningless. If, however, at some future time a number of lawyers should organize into a sect opposing the common construction of law and the customary practice of the majority of the profession, their attitude would be analogous to that originally assumed by the disciples of Hahnemann, and it would be simply a question of numbers and influence whether they would be considered a coterie of visionaries or whether they would succeed in splitting up the legal profession into schools.

It is not now appropriate to enter into a discussion of the merits or demerits of Homœopathy. A great point will be gained if the laity can be taught to regard medical sectarianism as intrinsically evil, to be justified only by strong dissenting convictions. If they can be made to appreciate that it is something more than dollars and cents that actuates the demand of the regular profession for a concentration of medical effort and thought, we shall, at least, not be condemned for declining to extend the right hand of fellowship to sectarians. If the tenets of Homœopathy can be plainly presented to the laity, if Homœopaths can be driven from their attitude as martyrs to the cause of mild doses and medical renovation, and pinned down to a defense or renunciation of Hahnemann's teachings, then we can trust the common sense of our non-medical fellow citizens to choose wisely, in the main, between regular medicine on the one hand and sectarianism on the other.

Dr. Roberts has confirmed by abundant testimony the growing sentiment that the

homœopathy of to-day has practically cut loose from the restrictions of Hahnemann, and that it is to a great extent parasitic upon the medical teaching and literature of the regular profession. Far from being creditable to homœopathy, these facts carry with them the odium which must always attach to any individual or society whose avowed principles and practices are at variance. This is a period when religious denominations are revising their creeds and eliminating inconsistencies between nominal and actual beliefs. Let the homœopathic medical profession institute a general and formal inquiry as to what its tenets really are, and let it then proclaim them publicly in such plain terms as to obviate any future misunderstanding. My personal opinion is that such a general sifting of the homœopathic school would divide it into four parts. First, a few surviving believers in the original high-attenuation homœopathy would be found; secondly, there would be a larger percentage of honest adherents to a modified homœopathy, men whom we may esteem as friends and as citizens, but whose medical practice would be unqualifiedly different from our own; thirdly, there would be a goodly number of men who are unfortunately prevented from being one with us by the difficulties in the way of gaining membership in formally-organized bodies of regular physicians, or by an attachment to early associations, but who are homœopaths only in name, and who regret the inconsistent attitude in which they have placed themselves; lastly, there would be the chaff of the winnowing, a considerable, though not large, proportion of men and women who call themselves homœopaths to secure a share of an established practice, or because they think that the mental association of homœopathy with small and pleasant doses will prove profitable. These are creatures who are homœopaths for what the name is worth, and who would be eclectics, vitopaths or magnetic healers, if the financial outlook was better in any of these directions.

I agree most heartily with Dr. Roberts, that all obstacles should be removed from the way of these men, who, without sectarian beliefs, find themselves in sectarian societies and wish to unite with the regular profession; but it does not seem to me that the accidental wandering of homœopaths from homœopathic standards brings

them into harmony with the organization which they still antagonize under the falsely applied name of allopathy.

A. L. BENEDICT.

174 Franklin st., Buffalo, June 30, '93.

EDITOR MEDICAL AND SURGERY REPORTER: DEAR SIR:—There is a little point in Anæsthesia that I have never seen mentioned in any communication on the subject, and yet is of such importance that it might not be amiss to call attention to it in a brief paragraph.

In many cases of anæsthesia at any stage there may occur long, deep sighing respiration. This may take place, and frequently does, immediately after an attack of vomiting or after slight evidence of return to consciousness, though it is just as apt if not more so, to occur during deep anæsthesia. It is not evidence of returning consciousness, but is exactly similar to or the same as that which takes place during or after periods of intense concentration during the waking period, as is commonly seen in churches, theatres, etc. It is an unconscious effort to inhale more air, and shows a defective or careless respiration. My only object in calling attention to this phenomenon is to advise all anæsthetizers to do what I have seen very few of them do. Remove the inhaler instantly and allow nature that which she is endeavoring to get.

This is where the disadvantage of an immovable apparatus comes in. It is possible that the amount of anæsthetic which may be drawn in from a saturated inhaler by one of these deep sighing respirations, during deep anæsthesia, might be just sufficient to carry the patient over the line. I would like also to give in my evidence against the custom of largely increasing the amount of vapor during and after attacks of vomiting with the idea of controlling the vomiting, especially is this dangerous in the later stages of the anæsthesia or operation.

Yours very truly,

WM. H. BURR,

216 W. 9th St., Wilmington, Del.

If some men would get nearer to the Lord, they wouldn't have to make so much noise in church.

Don't try to carry all your religion in your head.

## ABSTRACTS.

## THE DRIP SHEET.

In a recent address before the New York Academy of Medicine (*Medical Record*), Dr. Weir Mitchell gives the following directions for the use of this agent by persons needing the modified rest-cure:

"What I dread most at the start, in all cases for rest, is grave insomnia. Whether it be accompanied by a state of mild mental excitement such as we all know, or is a pure incapacity to go to sleep or to stay asleep, or whether it be in popular medical belief a congested state, I am apt at once in bad cases to use twice a day lithium bromide, at first in thirty-grain doses, at noon, at 6 and 9 P. M., given in the malt or not, and soon decrease grain by grain. If I want a positive aid at bedtime, I prefer sulfonal in hot water. But of greater value are some of the hydro-therapeutic devices—and best of these is what is known, or not known, as the 'drip sheet.' Just how this is to be given is of the utmost importance. The following memoranda must answer to show how careful one must be in my opinion, as to these details. I give it here, in brief, much as I do to the patient not under the immediate care of a nurse. I cannot help adding that several of the most useful of the water processes are neither taught in our schools, nor so accurately in hydro-therapeutic text-books as to be of much value to the general practitioner.

*Memoranda for Use at Bedtime of Drip Sheet.*—Basin of water at 65° F. Lower the temperature day by day, by degrees, to 55° F. or to still less. Put in the basin a sheet, letting the corners hang out, to be taken hold of. The patient stands in one garment in comfortably hot water. Have ready a large, soft towel and iced water. Dip the towel in this, wring it, and put it turbanwise about the head and back of the neck. Take off night-dress. Standing in front of patient, the basin and sheet behind, the maid seizes the wet sheet by two corners and throws it around the patient, who holds it at the neck. A rough, smart, rapid rub from the outside applies the sheet everywhere. This takes but two minutes or less. Drop the sheet, let the patient lie down on a lounge upon a blanket, wrap her in it. Dry thoroughly and

roughly with coarse towels placed at hand. Wrap in a dry blanket. Remove ice-wrap, dry hair, put on night-dress. Bed, the feet covered with a flannel wrap.

If all this seems to you, as you read it, too absurdly minute, I shall feel some regret. Yet believe me, it is worth the trouble, and the drip-sheet is a remedy past praise. If it fail, a pack may succeed; but this is more familiar to you. I doubt if the use of the drip-sheet is as well known.

THE INDICATIONS FOR THE ENUCLEATION OF AN EYE are thus summarized by Jackson (*Philadelphia Polyclinic*):

1. The presence in the eye of a malignant new growth, as glioma, sarcoma, or tuberculosis. This indication is imperative, no matter how much vision the eye retains.

2. The presence in the eye of a foreign body, with iridocyclitis. If the injury be recent and the inflammatory process still active, and the patient cannot remain under observation, an eye with anything less than thoroughly useful vision should be sacrificed.

3. The presence of a foreign body in a blind eye.

4. Blindness with diminished tension of the eyeball, following perforation either from traumatism or corneal ulcer; most urgent after traumatic perforation of the exposed portion of the sclera.

5. Blindness from irido-choroiditis without perforation of the eyeball, if the patient cannot remain under observation.

6. Sympathetic inflammation, provided the exciting eye does not possess vision sufficiently good to be weighed against the chances of the sympathizing eye.

7. The actual presence of sympathetic irritation; not the risk of it, unless the patient is likely to be out of reach of surgical aid.

8. Persistent pain in a blind eye, sufficient to annoy its possessor or tempt him to the use of analgesic drugs.

9. Serious disfigurement of a blind eye, even if free from pain or risk of causing sympathetic disease.



## CURRENT LITERATURE REVIEWED.

THE AMERICAN GYNECOLOGICAL JOURNAL for June.

Dr. Thomas H. Manley reports a

**Fibro-Myoma of the Uterus and Broad Ligament of Forty-five Years' Duration.**

The woman lived to be 76 years old. The tumor had been examined by numerous physicians, few of whom agreed on a diagnosis, the opinions ranging between ovarian tumor and hypertrophic fibrosis of the right lobe of the liver. At one time she was under the care of Dr. Gunning Bedford, and was very desirous of having an operation performed for relief; but, owing to his influence, it was not done. The case demonstrates that, under certain circumstances, the presence of a uterine fibroid is not incompatible with longevity. In the end, though greatly reduced in volume, yet it still persisted as a foreign body, was an inconvenience to her while she was on her feet, and was a constant menace to her comfort while in bed. At the post mortem it was noticed that no trace of the uterus remained, nor anything like a normal ovary. The abdominal muscles had atrophied as the result of the continued pressure. In his remarks on the treatment of uterine fibroids, the author says that nothing in the way of direct surgical treatment should be recommended till we have first given constitutional and local measures a fair trial. He thinks that electricity possesses useful properties, but denies that it will dissolve and scatter away a calloused old fibroid. The electro-puncture should be interdicted. When the cervical canal is short and the tumor low down in the pelvis, the cervix can be dilated and the tumor removed *en masse* or piecemeal. Especially may this be done in the case of submucous or intra-uterine tumors. The author thinks it a mistake to teach that metrorrhagia is never absent in cases of fibroid tumors, as he has seen cases in which the patient never had any hemorrhage. Hysterectomies for fibroids are justifiable when they have destroyed the uterus, particularly with those of advanced years. Abdominal hysterectomy is a highly valuable operation in skilled hands and under proper surroundings.

Dr. W. F. Metcalf presents "A Report of Two Cases of Marginal Eczema," in which local treatment was of no avail till after the sexual organs had been put in good condition. In one case an ovarian growth was removed, in the other a lacerated perineum was repaired.

Dr. C. G. Jennings contributes a paper on **The Induction of Labor in the Albuminuria of Pregnancy.**

His experience leads him to look upon albuminuria as a very grave complication of pregnancy; one demanding from the physician the utmost care and the best judgment to bring to a favorable issue. Termination in the complete disappearance of the albuminuria before the end of pregnancy is, in his

opinion, unusual. While the statements of many writers show that women frequently go to term and through labor without disaster, to permit her to run the risks to both herself and child of acute renal insufficiency seems rarely justifiable. In mild albuminuria before the seventh month, the case should be put upon proper medical treatment and carefully watched. If the conditions improve or remain stationary, interference may be delayed until it is certain that the child stands a good chance of living, well on in the seventh month. In severe albuminuria before the seventh month, with marked renal insufficiency and dropsy, labor should be induced as soon as it is seen that medical measures have little or no beneficial influence. These cases probably always terminate in spontaneous premature delivery, with the death of the child or convulsions. In albuminuria occurring after the seventh month, labor should be induced if the condition remain stationary after a week or two of proper medical treatment. Daily examinations of the urine should be made, and any marked increase in the albumen or a decided decrease in the urine solids should be followed by prompt interference. In severe cases seen for the first time during the seventh or eighth month, and showing a decided decrease of urine solids and much dropsy, artificial labor should be promptly induced.

Dr. R. B. Maury reports "A Case of Ovarian Pregnancy." The specimen was referred to Dr. Alan J. Smith for an opinion, and he reported it an undoubted case of true ovarian pregnancy.

Dr. B. E. Hadra presents "A Contribution to the Pathology of the Fourchette." Dr. A. W. Hitt discusses "The Proper Treatment of Laceration of the Cervix." The remaining paper is by Dr. Joseph Price, entitled, "Gynecology and the General Practitioner," and has been published in THE MEDICAL AND SURGICAL REPORTER for May 13, 1893, page 717.

THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES

for July. Dr. F. Forchheimer contributes a paper on

**The Intestinal Origin of Chlorosis.**

The author concludes, as the result of experiments upon animals, that the number of red corpuscles is diminished in the veins of the intestine, while the quantity of hæmoglobin remains the same; therefore, hæmoglobin is absolutely increased in the vein and each red corpuscle carries more hæmoglobin in the vein than in the artery. From this observation the conclusion can be drawn that, in the rabbit, hæmoglobin is taken up by the blood from the intestine, and that it must be formed either in the parts supplied by the arteries—i. e., the mucous membrane in its broadest sense—or within the intestinal

canal. The author states in conclusion, that possibly some other origin for hemoglobin may exist than in the intestine; from all evidences, however this is the principal source and in chlorosis the most important. He presents the results of the treatment by salol or hydro-naphthol (so called). No iron was used. The object of the treatment was to prevent abnormal decomposition in the intestine. The number of cases is too small to draw any conclusions from but the results were good.

Drs. Theodore Diller and J. J. Buchanan report

**A Case of Sub-cortical Cyst of the Lower Part of the Left Ascending Parietal Convolution.**

The case confirms, as much as a single case can, the generally accepted ideas concerning the localization of certain motor functions in the Rolandic region. It lends support to the opinion (upon which there is not so much unanimity) that there is no cortical representation of sensation in the pre-central convolution, and also offers distinct negative evidence in support of the view that this convolution is not related to the function of muscular sense. The hypothesis of Seguin, Mills and others, that when hemiparesis precedes spasm the lesion is sub-cortical is confirmed by the evidence presented by the case. From the surgical aspect of the case, the admirable control of hemorrhage during the operation by means of a rubber band around the head is worthy of mention. The operation, which was performed by Dr. Buchanan, proved successful as far as recovery from the surgical procedure is concerned. The spasms still continue but are lessened in number.

Dr. B. Farquhar Curtis contributes a paper on

**Cases of Bone Implantation and Transplantation for Cyst of Tibia, Osteomyelitic Cavities, and Ununited Fractures.**

After reviewing the different methods and materials used for the purpose, the author concludes that Senn's decalcified bone appears for the present to be the most practical material for use in ordinary cases, while we are waiting for the ideal of the future—the insertion of a piece of living bone that will exactly fill the gap and will continue to live without absorption. The author reports four cases successfully treated by bone implantation. The most rigid antiseptics is necessary in the operation and the author cautions against the too free use of iodoform on account of the dangers of poisoning from it. Such an accident has not happened to him but the author thinks the caution necessary.

Dr. Judson Daland discusses

**The Treatment of Cholera by Hypodermoclysis and Enteroclysis.**

The treatment is principally of value in the evacuant or collapse stage of the disease. The solution used for hypodermoclysis consists of two small teaspoonfuls of sodium chloride to a quart of hot water, which has been distilled and sterilized. The operation is one of great simplicity, requiring only a small-sized aspirating-needle and canula

which is attached to the rubber tube of an ordinary fountain syringe. The best point for the introduction of the needle is in either flank, between the ribs and the crest of the ilium; the inner surface of the thighs may also be used. Observation has shown that there is danger in the injection of fluids in beneath the skin of the neck, as two cases of fatal oedema of the larynx following the operation have been reported. The operation should be performed under strict antiseptics. The first injection for an adult should be one or two quarts, and the solution should have a temperature of 110° F. at the reservoir which will be reduced to 105° F. after traversing the long tube to the subcutaneous space. The objection to enteroclysis that the injection will not pass the ileo-cæcal valve, the author believes to be without foundation. He reports that several patients to whom injections of tannic acid were given, vomited tannic acid, thus proving that the fluid passed the valve. The liquid for enteroclysis should also have a temperature of 110° F. which will be reduced about five degrees by its passage through the tube. Besides setting forth the value of the above procedures, the paper also deals with the general treatment of cholera.

**Puerperal Infection considered from a Bacteriological Point of View, with Special Reference to the Question of Auto-infection**

is the title of a paper contributed by Dr. J. Whitridge Williams. After exhaustively reviewing the opinions of the observers of this subject, the author concludes that the general practitioner will do best for himself and his patient if he acts as if there were no such thing as auto-infection, and does not attempt to deal with any organisms which may exist in the vagina, and contents himself with the most scrupulous cleanliness on his part and careful disinfection of the external genitals. The author also believes that it is impossible to disinfect the vagina with the means ordinarily at hand, and with the patient in her bed. This of course does not apply to well regulated hospitals, for there the douche may be given with greater antiseptic precautions. The best results will be obtained when, in addition to the most rigid subjective antiseptics, we consider each case separately, and make a preliminary microscopic examination of the vaginal secretion. If the secretion be normal there can be no possible justification for the use of the douche, but if pathological there may be.

Dr. Heneage Gibbes contributes a paper on "The Parasitic Nature of Cancer" in which he says that the most careful examination of specimens, hardened after a method which gave normal appearances in sections of normal liver, failed to show anything that could be construed into any form of parasite.

The remaining papers in this issue are: "A Suggested Improvement in the Correction of Lenses for Photomicrography, Photography, and Photoastigraphy" by Dr. Henry G. Piffard, and "Simple Idiopathic Muscular Atrophy, beginning in the Flexors of the Hips—Buzzard's Form" by Dr. Howell T. Pershing.

## PERISCOPE.

### MEDICINE.

#### Differential Diagnosis of the Various Forms of Convulsions in Young Children.

Dr. Landon Carter Gray in discussing this subject before the New York Academy of Medicine, said that it involved the consideration of a large number of diseases, for a convulsion is a symptom, and not in itself a disease. A broad general classification of convulsions might be made into organic and functional. We know very little of cerebellar disease in the child, and our attention must be directed entirely to the cerebrum. In the organic class are the convulsions due to meningitis, encephalitis, meningo-encephalitis, and hydrocephalus. An organic lesion may be suspected when there is paralysis of some function of the cerebrum, as of sight or hearing. Cerebral hemorrhage may alone cause convulsions, and may be local or widespread. Organic lesions in the brain may cause convulsions, and may also impair mental power. Recently much has been said regarding the possibility of mental disturbance due to premature ossification of the bones of the skull. Lannelongue's operation has become a fad. It is useless, however, where there is distinct evidence of an organic lesion, as paralysis, blindness, or deafness. It can be of value only when the mental power alone is reduced.

A most interesting subject is that of functional convulsions. Chorea is sometimes mistaken for disorders of convulsive nature. Chorea appears under two forms. In the one the movements are fibrillary and very quick in their occurrence and beyond the control of the patient; in the other the motions are more gradual and wormlike. Experiments have recently been made regarding the convulsions due to digestive disturbance. It has been found that the normal putrefaction which always occurs during digestion sometimes becomes abnormal or irritative. In these cases the patient is slightly dyspeptic, and indican may be detected in the urine. These investigations are interesting and important, as they throw light upon facts which have long been known regarding the close association of digestive disorders and convulsions. Peripheral irritation has long been considered a cause of convulsions. There is no positive proof that ovarian disease ever of itself causes convulsions. Removal of the disorder is rarely followed by more than temporary relief. True epilepsy is masked by paroxysms which occur in series. This fact must be considered in discussing the disease, and in drawing conclusions regarding the treatment. No one can say at what period epilepsy is cured. The convulsions sometimes appear months or even years after a cure has apparently been effected.—*Med. Review.*

### Etiology of Whooping-Cough.

Dr. Ritter, of Berlin, has been making some researches into this subject. When it was possible to obtain any expectoration at the end of a paroxysm of coughing, the sputum was received into a sterilized vessel and carefully washed with distilled water. Small, opaque particles were generally found, and these were removed with due precautions and cultivated on agar-agar. Small colonies appeared within twenty-four hours. Under the microscope these were found to consist of diplococci. The colonies were opalescent and grayish in color, and adhered firmly to the surface of the cultivating medium. These diplococci are different from those described by Fraenkel as present in pneumonia. Although his experiments on animals were not yet completed at the time the report was made to the Berlin Medical Society, yet Dr. Ritter had already obtained results which seemed to point to this micro-organism as the specific agent in the production of pertussis.—*N. Y. Med. Record.*

### SURGERY.

#### Surgery of the Gall-Bladder.

An excellent *resume* by Pick of Czerny's publication on the present status of this branch of surgical work merits attention. Czerny bases his conclusions on eighteen cases. He considers that cases without discomfort, even if the gall-bladder can be felt distended with calculi, should not be interfered with surgically. In these cases there may be short attacks of colic with jaundice; but they are readily relieved by medicinal treatment, and are not of frequent occurrence. The surgical cases are when the symptoms are severe, the attacks frequent, and the patient is not free from pain or discomfort during the remissions. The operative cases are classed either as those without long-continued icterus or with continued icterus. The cases without icterus often are difficult of diagnosis. Extirpation of the gall-bladder is not considered a desirable operation, since it does not prevent the recurrence of calculi in the dilated hepatic ducts; also, since the gall-bladder is valuable in forming a new outlet for the biliary current by its union (cholecysto-enterostomy) to the duodenum in cases when the common duct is occluded. In the non-icteric cases the surgeon has to deal mostly with the gall-bladder alone, since the ducts, except the cystic, are patent. The method of operating in two sittings is indicated when the contents of the bladder is purulent. The method used where the immediate incision is made is to pack the gall-bladder in iodoform gauze so as to shut off the abdominal cavity; then incise, and wash out with a boric-acid solution. The advantage of the open abdominal wound is that the



exterior and adjacent organs can be examined. When the bladder is opened after adhesions have formed, the interior of the bladder only is accessible, and the rest has to be left to nature.

An attempt at suture of the bladder wound and its replacement in the abdomen should never be done except when the bladder is in a normal condition.

In cases of suppuration or stenosis of the cystic duct the formation of a temporary fistula is recommended.

The typical operation for calculi is incision evacuation of calculi, suture of the gall-bladder, abdominal drainage for a short time. Extirpation is only indicated in severe or carcinomatous degeneration. When the common duct is occluded, operate as long as the patient's condition will permit. If the obstruction (stone or flexions) cannot be removed cholecysto-enterostomy is recommended. The incision recommended is a right-angular one, the vertical short arm in the linea alba. The horizontal arm immediately below the umbilicus and extending to the right. This, Czerny thinks, gives the best opportunity to investigate the ducts as well as the gall-bladder.

The risk to life is now less than for operations on the urinary bladder.—*Ann. of Surgery.*

## GYNECOLOGY.

### Danger of Vaginal Pessaries.

Dr. Neugebauer, of Warsaw, has published an exhaustive analytical monograph on this question, so important in these days when gynecology is widely practiced by the surgeon and physician as well as the specialist. Two hundred and forty-two cases of injury have been collected and analyzed, five more being added in an appendix. Tabulating the results, Dr. Neugebauer presents the medical public with the following formidable statistical records: Twenty-three cases of perforation of rectum alone by the pessary; twenty cases of perforation of the bladder alone; ten cases of perforation of the bladder and rectum; one case of ureteric fistula alone; one case of ureteric and vesico-vaginal fistula; one case of urethral-vaginal fistula; two cases of perforation of Douglas' pouch (neither fatal); three cases of perforation of the vaginal walls, the extruded portion of the pessary lying in the pelvic connective tissue; and six cases of entry of a vaginal pessary into the uterus.

As to the age, one patient was ninety years old; she had worn a wooden pessary forty-five years. The youngest was nineteen. The time during which the pessary was worn (and often forgotten) is tabulated, the non-agenarian just mentioned heading the list; two other women wore their pessaries for forty years; and twenty, besides these three, wore the instrument over twenty years. The toleration of the vagina is very varied in different individuals, even for the same kind of pessary; thus in some cases the pessary became fixed, and tended to ulcerate into the vaginal walls within two or three

months, whilst in others the appliance was worn over twenty years without causing any objective or subjective troubles. How fetor could have been absent in these tolerant cases it is hard to understand. We must remember that the same kind of pessary is not always introduced with the same skill, whilst other pessaries may be bad in principle or ill-made by the manufacturer, and, lastly, the patient very frequently forgets that she wears a pessary, hence the share of blame which the introducer of the instrument should bear is not uniform.

When the patient is not aware that the instrument has been inserted, as is often the case, the medical attendant must undoubtedly have shown great skill and gentleness in introducing it, but he may not have taken sufficient pains to impress upon her memory the fact that the instrument has been introduced, and must not be worn for many months. This is the commonest cause of pessary accidents at the present time, for the art of introducing pessaries is readily acquired, experience is easily obtained, and the favorite pessaries are no longer barbarous instruments, whilst the patient may misunderstand such information as "I have passed a Hodge," or "You are wearing a Zwanck," and go away with the belief that she is *not* wearing a pessary. As to the merits and disadvantages of the almost innumerable forms of pessary, we must refer the reader to Dr. Neugebauer's valuable paper. The moral is that the introduction of a vaginal pessary is a minor surgical proceeding, but if performed carelessly may lead to results in no sense "minor," but, on the contrary, very serious.—*British Medical Journal.*

### The Sensitiveness of the Peritoneum.

Tait (*Lancet*, January 21, 1893) believes that the peritoneum is exquisitely sensitive, as shown not only by the severe pain experienced by patients during a sudden internal hemorrhage, but by the agony which they suffer when it is necessary to open the abdominal cavity without anaesthesia. Moreover, he has frequently noticed that, on touching the peritoneum in women who were incompletely anaesthetized, reflex movements were frequently produced, indicative of the pain which was experienced. He addressed inquiries to several different abdominal surgeons, many of whom expressed an opinion directly contrary to his own. Sutton believes that while the healthy peritoneum is not especially sensitive, when inflamed it is highly so.

### Suturing the Ureters.

Trekaki (*Gaz. des Hopitaux*, 1892, No. 62) infers from experiments upon animals, as well as from the cases reported by Pozzi and Le Dentu, that patients do better when the proximal end of a wounded ureter is stitched into the abdominal wound than when it is turned into the rectum or vagina, since in the latter case infection may be carried to the renal pelvis, causing pyelitis.

He suggests that in cases of suppuration of the kidney, instead of extirpating the organ, it should be exposed by the usual lumbar incision, and the ureter drawn out and divided, after ligating the distal portion, the proximal end being stitched into the wound. This operation would be indicated in cases of inoperable pelvic tumors compressing the ureter, after traumatic rupture of the duct, and even in cases of severe cystitis, in order to protect the kidneys (?).

## NEWS AND MISCELLANY.

### A Valuable World's Fair Book.

The Passenger Department of the Baltimore and Ohio Railroad Company has prepared for general distribution a handsome pamphlet descriptive of the scenic and other attractive features of that road from New York to Chicago. This book should prove invaluable to those visiting the World's Fair. In its artistic cover, illustrations and reading matter, it is fully up to the high standard which has been fixed by the B. & O. for publications of this character. The scenery en route, which has gained for the B. & O. the richly deserved sobriquet of "Picturesque," the public buildings at Washington, old Harper's Ferry, Luray Cavern, and other attractive points are faithfully portrayed. The value of the publication is increased by descriptions and illustrations of the principal buildings at the World's Fair. This book can be procured free of charge upon personal application to ticket agents, B. & O. R. R. Co., or you can have it mailed to you by sending name and address with five cents in stamps to Chas. O. Scull, General Passenger Agent, Baltimore, Md. World's Fair tourists should bear in mind that the B. & O. is selling tickets at very low rates good going via Washington and returning via Niagara Falls.

### Deer Park and Oakland.

To those contemplating a trip to the mountains in search of health and pleasure, Deer Park, on the crest of the Allegheny Mountains, 3,000 feet above the sea level, offers such varied attractions as a delightful atmosphere during both day and night, pure water, smooth, winding roads through the mountains and valleys, and the most picturesque scenery in the Allegheny range. The hotel is equipped with adjuncts conducive to the entertainment, pleasure and comfort of its guests.

The surrounding grounds, as well as the hotel, are lighted with electricity. Six miles distant on the same mountain summit is Oakland, the twin resort of Deer Park, and equally as well equipped for the entertainment and accommodation of its guests. Both hotels are upon the main line of the Baltimore and Ohio Railroad, have the advantages of its splendid Vestibuled Limited Express trains between the East and West and are

most desirable resting places for World's Fair tourists. Season Excursion tickets, good for return passage until October 31st, will be placed on sale at greatly reduction rates at all principal tickets officers throughout the country. One way tickets reading from St. Louis, Louisville, Cincinnati, Columbus Chicago, and any point on B. & O. system to Washington Baltimore, Philadelphia, or New York, or vice versa, are good to stop off at either Deer Park or Oakland, and the time limit will be extended by agents at either resort upon application.

The season at these popular resorts commences June 15th.

For full information as to hotel rates, rooms, etc., address George D. DeShields, Manager, Deer Park, or Oakland, Garrett County, Maryland.

## ARMY AND NAVY.

U. S. ARMY FROM JUNE 25, 1893, TO JULY 1, 1893.

By direction of the President, Captain Marcus E. Taylor, Assistant Surgeon, will report in person to the president of the Army Retiring Board at Fort Logan, Col., when required by the board, for examination by it.

First Lieutenant Frank T. Meriwether, Assistant-Surgeon, U. S. Army, is relieved from duty at Madison Barracks, N. Y., and ordered to Fort Logan, Colorado, for duty.

Captain Louis A. La Garde, Assistant Surgeon, will, in addition to his present duties in connection with the World's Columbian Exposition, furnish the necessary medical attendance for the officers and enlisted men of the Army on duty at the Exposition grounds.

Captain William C. Shannon, Assistant Surgeon, in addition to his duties at the office of the Surgeon General, is assigned to duty as assistant to the Attending Surgeon in this city.

The leave of absence granted Major Washington Matthews, Surgeon U. S. Army, is extended one month.

Captain Freeman V. Walker, Assistant Surgeon, now on leave of absence at the Army and Navy Hospital, Hot Springs, Arkansas, will proceed at once to Fort Trumbull, Conn., and report at once to the commanding officer of that post for temporary duty, relieving Major Henry M. Cronkhite, Surgeon.

Major Cronkhite, upon being relieved by Captain Walker, will proceed to Fort Clark, Texas, and report in person to the commanding officer for duty at that post.

First Lieutenant Alexander N. Stark, Assistant Surgeon, is relieved from duty at Fort Monroe, Virginia, and ordered to Fort Clark, Texas, for duty; relieving Captain Edgar A. Mearns, Assistant Surgeon.

Captain Mearns, upon being thus relieved, will proceed to Nogales, Arizona, and report to the senior member of the commission appointed for the location and marking of the boundary between Mexico and the United States, for duty with the commission.